## SECTION VII

## LAND AND WATER MANAGEMENT AREA PLANS

#### 7.1. INTRODUCTION

The Project Master Plan provides guidance for the orderly development, use and management of project resources. Resource planning takes into consideration authorized project purposes, public desires, regional needs, and opportunities and constraints that influence development and management. All proposed development is designed to be compatible with the project's natural and cultural resources. Project planning and land classification deals with several factors: seasonal flooding, soils, ecological conditions, existing and projected recreation demand, state and local participation and interest, and applicable laws, regulations and policies.

Each area description includes a listing of existing facilities, and proposed and future actions. Proposed actions are intended to be completed within ten years or by the next scheduled update. Future actions include alternatives that are generally being considered for development after ten years. Costs for proposed actions are included in Section X.

# 7.2. SELECTED LAND AND WATER USE POLICIES Shoreline Management

The following excerpt is taken from the Corps regulation on Shoreline Management (ER 1130-2-406) dated 31 Oct 1990:

"It is the policy of the Chief of Engineers, Corps, to protect and manage shorelines of all civil works water resource development projects under Corps jurisdiction in a manner which will promote the safe and healthful use of these shorelines by the public while maintaining environmental safeguards to ensure a quality resource for use by the public. The objectives of all management actions will be to achieve a balance between permitted private uses and resource protection for general public use. Public pedestrian access to and exit from these shorelines shall be preserved.

It is the policy that private exclusive use will not be permitted on new water resource projects where no private facilities existed as of 13 December 1974, the date of the original Shoreline Management implementing regulation (ER-1130-2-406).

Preserving the natural environment is essential to the proper maintenance and management of wildlife habitat, aesthetic quality of water resource projects, and shoreline erosion control. Therefore, no shoreline use permits for vegetation modification activities, such as clearing or mowing, which would imply exclusive use of public land or otherwise deny full use of public land or water to the general public, will be issued at St. Louis District projects. The only exceptions at Rivers Project may be a 100-foot buffer from a housing structure for fire protection and for mowing roadways and levee berms."

#### St. Louis District Interim Policy

A Shoreline Management Plan, as required by 36 CFR Part 327.30, Shoreline Management on Civil Works Projects, has not been developed for those portions of the Mississippi and Illinois Rivers under the jurisdiction of the St. Louis District. Until such a time a plan is developed and approved, the following policy, dated September 4, 1990, will govern private exclusive use of the shoreline:

- Existing and new shoreline facilities for Cabin Lease holders will be covered under the lease instrument.
- No new facilities will be approved, permitted or constructed until a new Shoreline Management Plan has been developed and approved for the Mississippi and Illinois Rivers.
- All existing facilities, including cabin lease holdings, will be grandfathered until a Shoreline Management Plan has been developed and approved.

#### Off Road Vehicles and Seaplane Use

The operation of off-road vehicles on Corps land will be in accordance with the policies, procedures and criteria set forth in ER 1130-2-550, Chapter 10; EP 1130-2-550, Chapter 10 and Executive Order 11644. In addition, ER 1130-2-550, Chapter 11 and EP 1130-2-550, Chapter 11 set forth rules and regulations governing seaplane operations at civil works projects.

#### **Forest Resources**

All lands in government fee ownership are being managed to maintain their forest resources for recreation, wildlife and scenic values. The Land and Water Use Plan plates show these lands as Recreation and Recreation Low-Density, Vegetative Management and Wildlife Management. The OMP for each compartment describes the general practices and techniques that are used to conduct a program for developing the forest resources of the River Project, such as tree planting and vegetation manipulation, to support management objectives. When necessary, timber will be harvested to achieve other management objectives such as wildlife habitat improvement. Forest management is a secondary purpose for areas zoned for recreation or low-density recreation. The OMPs detail specific objectives and management practices.

#### **Agricultural Use**

Portions of those lands managed by other agencies have been placed under a Sharecrop agricultural program. The plan contains provisions for agriculture as a corollary use to obtain food for wildlife, to prevent encroachment of undesirable vegetation and to provide succession control.

# 7.3. LAND ALLOCATIONS AND LAND USE CLASSIFICATIONS

#### **Land Allocation**

All lands will be allocated in accordance with the authorized purposes for which they were or are to be acquired. Land will be allocated into one of the following categories:

#### **Operations**

 Lands acquired in accordance with the authorizing documents for operation of the project, including flood control, hydropower, navigation, water supply, etc.

In many cases, the majority of lands (rim lands, etc.) on Corps projects will be allocated to project operations.

#### Recreation

 Separable lands acquired in accordance with authorizing documents for public recreation only.

None exist at Rivers Project.

#### Fish and Wildlife

 Separable land acquired in accordance with authorizing documents for fish and wildlife management

#### Mitigation

 Land acquired or designated in accordance with authorizing documents to offset losses associated with development of the project

#### **Land Use Classification**

Allocated project lands are further classified to provide for development and resource management consistent with authorized project purposes and the provisions of the National Environmental Policy Act (EPA) and other federal laws. The classification process refines the land allocations to fully utilize project lands and must consider public desires, legislative authority, regional and project specific resource requirements and suitability. Land allocation takes precedent over any of the following classification categories. Agricultural or grazing use of project land is not a land classification but may be an interim or corollary use to meet management objectives. Land shall be classified into one of the following categories:

#### **Project Operations**

 Lands required for operations structures, operations centers, offices, maintenance compounds and other areas that are used solely for project operations

#### Recreation

 Land developed for intensive recreational activities by the visiting public, including developed recreation areas and areas for concession, resort, and quasi-public development

#### Mitigation

Land acquired or designated specifically for mitigation only

Land classified in this category should be evaluated for consideration for lease or license to the Department of the Interior or the state.

#### **Environment Sensitive Areas**

 Areas where scientific, ecological, cultural or aesthetic features have been identified.

The identification of these areas on the map must be supported by narrative explaining the rationale for the classification. These areas, normally within one of the other classification categories, must be considered by management to ensure the sensitive areas are not adversely impacted. Normally, limited or no development of public use is contemplated for land in this classification. No agricultural or grazing uses are permitted on this land.

#### Multiple Resource Management

 Lands managed for one or more of, but not limited to, these activities to the extent that they are compatible with the primary allocation(s)

The activities should be fully explained in the narrative portion of the master plan.

#### Recreation Low Density

Low density recreation activities such as fishing, hiking, primitive camping, wildlife observation, hunting, or similar low-density recreational activities

#### Wildlife Management General

Fish and wildlife management activities

Lands in this sub-category shall be evaluated for consideration for lease or license to the Department of the Interior or the state.

#### Vegetative Management

Management activities for the protection and development of forest and vegetative cover.

#### Inactive and/or Future Recreation Areas

Planned or temporarily closed recreation areas. These lands will be classified as multiple resource management in the interim.

#### Easement Lands

All lands for which the Corps holds an easement interest but not a fee title. Planned use and management of easement lands will be in strict accordance with the terms and conditions of the easement estate acquired for the project.

#### Industrial Leases

Originally zoned operational, these lands include lands under lease to private industry that require access to river transportation.

# 7.4. MANAGEMENT AREA DESCRIPTIONS, ZONING AND PLANS BY POOL, COMPARTMENTS AND UNITS

## **POOL 27 Compartment 1**

Chain of Rocks Canal Management Area

**UNIT 1 - American Bottoms** 

Chain of Rocks Canal Area Corps of Engineers Operations (27-O-1) Madison County, IL River Mile 183.2 – 195.0L Acres 2,421 Plates 27-2, 27-1, S-1

<u>General Description</u>: The Chain of Rocks Canal Area includes a total of 13 areas, which are described as follows:

(1) The **Locks 27 Area** is located approximately one mile above the mouth of the Chain of Rocks Canal. Locks 27 is the last navigation lock on the Mississippi River and was authorized as part of the modifications to the existing Mississippi River Nine-Foot Navigation Channel project. The modifications provided for an eight-mile long canal to bypass the Chain of Rocks Reach along the northeastern boundary of St. Louis and St. Louis County, Missouri, between RM 184 and RM 194.5. The Chain of Rocks Reach is a series of rock ledges, which extend from the east bank under the river channel and act as a hazard to river navigation. Locks 27 and the Chain of Rocks Canal provide for navigation around the natural rock barriers, which during low water have a fall of 11 feet. Construction began on the Chain of Rocks Canal project in 1946 and the locks were opened to river traffic on 7 February 1953. Facilities include one 110-foot by 1,200-foot main lock and one 110-foot by 600-foot auxiliary lock.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

(2) The **Locks 27 Administration Area** is located adjacent to Locks 27 and is managed to provide facilities necessary for the operation and maintenance of Locks 27. Facilities include an access road, parking lot, administration building and control house, maintenance building, generator building and other appurtenant facilities, including radio towers and fuel tanks.

<u>Proposed Development:</u> Proposed development includes an additional maintenance building, removal of radio towers and temporary storage facilities, relocation of one set of fuel tanks, and installation of additional perimeter fencing.

**Future Development:** No future development is planned.

(3) The **Locks 27 Access Area** is located adjacent to the Locks 27 Administration Complex and is managed for public access purposes. Facilities include an access road, parking lot, waterborne comfort stations, visitor overlook, and the Floyd Wade Memorial Visitor Center.

<u>Proposed Development:</u> Restore and convert the existing waterborne comfort station and visitor overlook to the standards required by the Americans with Disabilities Act (ADA); provide a public access walkway to the visitor center and overlook, and expand the "Type C" visitor center into old lock control room.

Future Development: No future development is planned.

(4) The **Chain of Rocks Canal Area** is located immediately downstream of the confluence of the Missouri and Mississippi Rivers below the Melvin Price Locks and Dam. The eight-mile canal is managed as a navigation structure to provide a navigation bypass of the obstructive Chain of Rocks reach of the Mississippi River. Facilities include the canal, shoreline revetment and appurtenant facilities. The canal is eight miles in length with a bottom width of 300 feet at elevation 378.0 NGVD.

<u>Proposed Development</u>: Includes expansion of the existing Tri-City Regional Port District Harbor/St. Louis Harbor development (by others).

Future Development: No future development is planned.

(5) The East Chain of Rocks Canal Levee Area is located along the east side of the Chain of Rocks Canal. The East and West Chain of Rocks Levees were authorized by the River and Harbor Act of 2 March 1945. These levees were required as modifications to the existing levee systems due to the construction of the canal. The levee is managed both as a flood reduction and navigation structure. The nine-mile levee provides the navigation channel of the Chain of Rocks Canal and a 500-year flood protection for the agricultural, industrial and residential areas bordering the canal. It is an integral part of the Alton to Gale Levee System with crown elevation of 442.5 NGVD. Facilities include the Chain of Rocks Canal levee and associated relief wells, piezometers, drainage ditches and pipes, gated culverts, and levee road. The levee is dredged sand fill with one foot of topsoil to support ground cover. It has a 20-foot crown width and IV on 4H side slopes to a canal side berm elevation of 421.5 NGVD.

<u>Proposed Development:</u> Includes expansion of the existing Tri-City Regional Port District Harbor/St. Louis Harbor development, and facilities necessary for the East Chain of Rocks Levee Final Repairs.

**Future Development:** No future development is planned.

(6) The **East Levee Road Area** is located on the centerline of the East Chain of Rocks Levee crown. The road is managed for operations service access and as a public viewing facility of the Chain of Rocks Canal project. Its roadway is a 20-foot wide and 6-mile long crushed stone surface road connecting the public Metro East Sanitary District Levee Road on the north and the public Nameoki Township Bauer Road to the south. The roadway has five connecting spurs with controlled access gates, which include three spurs to the public Venice Township Chouteau Place Road, one spur to the public Venice Township Old Rock Road, and one spur to the public Nameoki Township Bauer Road. Facilities also include three trilateration stations and a viewing facility.

<u>Proposed Development:</u> Madison County Transit Authority has proposed developing a segment of the Confluence Bikeway that will interconnect bus transfer nodes, park and ride lots, population centers and major employment centers for all but the most northern portion of the roadway. Bike trail and interpretive facilities will be developed to provide a connection with the confluence bikeway. Three trilateration stations will be rehabilitated. The viewing facility will be moved to the West Levee Access.

Future Development: No future development is planned.

(7) The **West Chain of Rocks Canal Levee Area** is located on the west side of the Chain of Rocks Canal and is managed as both a navigation and flood reduction control structure. The eight-mile levee maintains the navigation channel of the Chain of Rocks Canal and the eastern line of

flood protection for the agricultural areas of Chouteau Island and the Gabaret Island Drainage and Levee Districts. Project facilities include the levee and associated piezometers, drainage ditches, dredge pipes, and levee road. The six mile levee is dredged sand fill with one foot of topsoil to support ground cover and has a crown elevation of 439.5 NGVD. It has a 14-foot crown width and IV on 4H side slopes to a canal-side berm elevation of 421.5.

<u>Proposed Development</u>: The West Levee Access will be established (see # 11) in this area as a replacement for the East Levee Road viewing facility and the Earth Day Access.

Future Development: No future development is planned.

(8) The **West Levee Road Area** is located on the crown of the West Chain of Rocks Canal Levee. The road is managed for operations service access to the project. The roadway is 14-foot wide 6-mile long crushed stone surface road connecting to the public Old US 66/Chain of Rocks Road. The roadway has two connecting spurs; one spur to a public township road to the south, and one spur a public township road to the north. Facilities include two access control gates connecting to north and south service access roads and three trilateration stations.

<u>Proposed Development</u>: Proposed development includes permanent closure of the levee road and granting of private road rights-of-way to cut-off landowners from the entrance spur and proposed West Levee Access Area to the intersections of public roads. The roadway entrance spur connecting to Old US 66/Chain of Rocks Road will serve as the entrance road to the proposed West Levee Access Area and will be provided with bike lanes to connect the linking bike trails over the Old US 66/Chain of Rocks Road bridge. Three trilateration stations will be rehabilitated and the north service access road will be relocated.

Future Development: No future development is planned.

(9) The **Tri-City Regional Port District Area** is located on 266.16 acres adjacent to the Chain of Rocks Canal immediately upstream of Locks 27. The facilities are managed as an inland river port requiring a multimodal interface of rail, trucking and water transportation for commercial and industrial purposes under long term industrial leases with Tri-City Regional Port District. The lease areas include a variety of industries and facilities including liquid and bulk products, steel terminals, a steel processing plant; rail, truck, terminal and fleeting operations, and immediate environs.

**Proposed Development:** Proposed development by the Port District includes harbor and inter-modal complex expansion. In addition, federally authorized construction of an additional pump station will occur at this location in conjunction with the Chain of Rocks Canal (Design Deficiency) Project.

**<u>Future Development</u>**: No future development is planned.

(10) The Chouteau, Nameoki and Venice (CN&V) Pump Station Area is located adjacent and riverside to the East Chain of Rocks Levee and a portion of the Old Chouteau Slough that serves as an interior storm water retention area. The pump station and immediate environs are managed for flood reduction purposes under a long-term easement with the Chouteau, Nameoki and Venice Drainage and Levee District. Facilities include the pump station and appurtenances.

<u>Proposed Development:</u> Includes construction of an additional pump station at this location in conjunction with the federally authorized Chain of Rocks Canal (Design Deficiency) Project.

Future Development: No future development is planned.

(11) The **Earth Day Access Area** is located landside of the East Chain of Rocks Canal Levee and is managed for public access purposes. Facilities include a parking lot with perimeter rock, entrance roadway, and a two-lane access control gate.

Proposed Development: The Earth Day Access Area facilities will be removed during the East Chain of Rocks Canal Levee Final Repairs and be relocated to the new West Levee Access Area along with East Levee Road access facilities. The West Levee Access will be located adjacent to the Chain of Rocks Canal at the intersection of the West Canal Levee Road entrance spur and roadways at the West Chain of Rocks Levee flood frequency elevation. The area is anticipated to be popular with bicyclists and tourists to view the Chain of Rocks Canal project and will replace and consolidate the Earth Day Access Area facilities and the East Levee Road viewing facility. The Old US 66/Chain of Rocks Road is proposed to include a bike trail linking the Old US 66 Bridge bike trail, Dam 27 Access Area and the Confluence Bikeway. A parking lot and two access control gates will be relocated from the Earth Day Access. New proposed facilities will include a guardrail, security lighting, comfort station, refuse receptacles and bike lanes.

**Future Development:** No future development is planned.

(12) The **Canal Access Area** is located at the northern end of the canal's eastern shoreline and is managed for public access purposes. Facilities include a parking lot with a waterside guardrail, shoreline revetment, an entrance roadway, and an access control gate.

<u>Proposed Development:</u> A single-lane boat ramp harbor and maneuvering area immediately downstream of the parking lot are proposed for operational and safety purposes. These facilities, including expanded parking and security lights, will provide emergency and operations boat access to the Mississippi and Missouri Rivers. No boat access to the Mississippi and Missouri Rivers exist on the Illinois shoreline of the Mississippi River between Melvin Price Locks and Dam and Locks 27. Incidental public use of the river access will be allowed.

**Future Development:** No future development is planned.

(13) The **Continental Oil Dock Area** is located on 2.26 acres immediately downstream of the Lewis and Clark Memorial Park Access Area and the Cahokia Diversion Canal. This facility is managed as a barge loading facility for petroleum products under a long term industrial lease and easement with Conoco, Inc. Facilities include a petroleum products pipeline, access roadway and control gate, and a docking facilities for loading and unloading petroleum products.

**<u>Proposed Development</u>**: No proposed development is planned.

**Future Development:** No future development is planned.

South Sub-Levees Area
Operational Easement (27-E-1)
Corps of Engineers
Madison County, IL
River Mile 186.5-190.5 L131.70
Acres: 131.7
Plates: 27-2, 27-1

<u>General Description</u>: The **South Sub-Levees Area** is an operations easement located landside of the Chain of Rocks Canal along the now abandoned pre-project East St. Louis and Chouteau, Nameoki, and

Venice mainline levees. The area is managed for flood reduction operations under perpetual easement to control underseepage of the East Chain of Rocks Levee and impound relief well underseepage and interior drainage waters in two isolated ponding areas. Facilities include the levees, gated culverts, service roadway, and access control gates and guardrail.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

North Sub-Levees Area
Operational Easement (27-E-2)
Corps of Engineers
Madison County, IL
River Mile 192.0-194.3 L64.60
Acres: 64.6
Plate 27-2

<u>General Description</u>: The North Sub-Levees Area is an operations easement located landside of the Chain of Rocks Canal along the now abandoned pre-project Chouteau, Nameoki, and Venice mainline levee. The area is managed for flood reduction operations under perpetual easement to control underseepage of the East Chain of Rocks Levee and impound relief well underseepage and interior drainage waters in two isolated ponding areas. Facilities include the levees, gated culverts, service roadway, and access control gates and guardrail.

**Proposed Development:** No proposed development is planned.

**Future Development:** No future development is planned.

Chouteau Slough Area
Vegetative Management (27-MR-V-1)
Corps of Engineers
Madison County, IL
River Mile 191-192.5L
Acres: 119
Plate 27-2

<u>General Description</u>: The Chouteau Slough Area is located landside of the East Chain of Rocks Canal Levee. The area is managed to restore permanent vegetative cover for native plant community restoration and wildlife habitat and consists of old fields, riparian bottomland forest remnants, and disturbed areas that provide habitat for resident, migratory, and endangered and threatened species habitats. The majority of the old fields has been replanted with bottomland forest species or have undergone natural succession. Other old fields have been kept clear by mowing and burning for future conversion to prairie habitats. The area offers excellent educational opportunities to the public as a riparian habitats restoration demonstration area.

The natural hydrology has been altered by the Alton to Gale Levee System with groundwater levels near 405.0 NGVD. The natural resources have been altered by agricultural clearing, levee, ditch and road construction; however, the natural ridge and swale topography and soils have not been altered. Natural succession during seepage inundation caused by the flood of 1993 has naturally restored native wetland plant communities in the lower swale elevations.

The area is primarily managed to sustain and restore natural riparian forest, prairie and wetland communities through natural succession and

restoration plantings, silviculture techniques, succession control and native plant introduction for old fields.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

American Bottoms Restoration Area Vegetative Management (27-MR-V-2) Corps of Engineers Madison County, IL River Mile 193.0-194.3L Acres: 239 Plate 27-2

General Description: The American Bottoms Restoration Area is located landside of the East Chain of Rocks Canal Levee. The area is managed to restore permanent vegetative cover for native plant community restoration and wildlife habitat. This area consists of diverse prairie-marsh and riparian bottomland forest communities that provide habitat for resident, migratory, and endangered and threatened species. The area offers excellent educational opportunities regarding the significance of environmental management and restoration. The natural hydrology has been altered by the Alton to Gale Levee System with groundwater levels near 405.0 NGVD. The natural resources have been altered by agricultural clearing, levee, ditch and road construction; however, the natural ridge and swale topography and soils have not been altered. In 1990, 10 acres of native bottomland hardwood trees were planted during an Earth Day event in an open field adjacent to the East Chain of Rocks Levee. In 1990 and 1991, 320 acres of native flood tolerant warm season grasses and forbs were planted in the old agricultural lands to restore a native plant community and wildlife habitat to the area. Natural succession during seepage inundation due to the '93 flood has naturally restored native wetland plant communities in the lower swale elevations. The area is managed to control succession and restore native plant communities through prescribed burning, disturbance, and forage plantings for firebreaks.

<u>Proposed Development</u>: Proposed development includes interpretive trails and signage, a road and an environmental habitat restoration project. The environmental restoration project will be designed to restore natural floodplain hydrology to the area by impoundment of spring and fall flood pulses to sustain natural wetland plant communities. The project will serve as an important mid-migration waterfowl habitat area and wood duck rearing habitat area. Project features will include environmental restoration of bottomland hardwood forest habitat and pre-project hydrology by placement of low earthen dikes, water control structures, and gravity or siphon flow inlets from the Chain of Rocks Canal.

**Proposed Development:** No future development is planned.

Lewis and Clark Forest Area
Vegetative Management (27-MR-V-3)
Corps of Engineers
Madison County, IL
River Mile 194.3-195.3L
Acres: 173
Plate 27-2

<u>General Description</u>: The Lewis and Clark Forest Area is located riverside of the East Chain of Rocks Canal Levee, and landside of the Chain of Rocks Canal immediately downstream from the Cahokia

Diversion Canal in the alluvial floodplain. The area is managed to sustain the existing riparian forest components while limiting development. This area consists of a mixture of a natural riparian bottomland forest and herbaceous wetland communities providing habitat for resident, migratory, and endangered and threatened species. It includes the largest unbroken tract (162 acres) of high-quality floodplain forest surrounded by developments. This area offers excellent educational and research opportunities for studies of natural riparian bottomland forest communities.

The natural hydrology of these lands has not been altered and it is frequently flooded during all but minor flood events. The natural resources have been altered by project and pre-project levee construction including abandoned levees and borrow pits, right-of-way clearing, agricultural grazing, and off-road vehicle damage. The natural ridge and swale topography and soils have not been altered. The area is managed to sustain the existing riparian forest components, limit development, protect existing hydrology and restore disturbed lands through protection, restoration and preservation.

<u>Proposed Development</u>: A kiosk and trail connection to the off-project development of the Lewis and Clark Historical Site Interpretive Center located landside of the East Chain of Rocks Canal Levee is proposed.

Future Development: No future development is planned.

American Bottoms Ecologic Area Ecologically Sensitive (27-ES-1) Corps of Engineers Madison County, IL River Mile 193.0-194.0L Acres: 40 Plate 27-2

<u>General Description</u>: The American Bottoms Ecological Area is located east of the American Bottoms Restoration Area. The area is managed to protect, sustain, and preserve the existing remnant bottomland hardwood native plant community. This area includes one of the best known pre-settlement remnant forest communities of the historic American Bottoms and offers unique educational and research opportunities that would demonstrate the significance of ecological preservation management.

The natural hydrology of these lands has been altered by the Alton to Gale Levee System with groundwater levels near 405.0 NGVD. The natural resources have been altered by agricultural grazing, clearing and public road construction. The natural ridge and swale topography and soils have not been altered. Management plans call for limiting future development to protect the existing hydrology.

**Proposed Development:** No proposed development is planned.

Lewis and Clark Memorial Park Access Area Low Density Recreation (27-MR-L-1) Illinois Historic Preservation Agency Madison County, IL River Mile 195.0L Acres: 2 Plate 27-2, S-3

General Description: The Lewis and Clark Memorial Park Access Area is located adjacent to the Chain of Rocks Canal shoreline at its northernmost point. This area is managed for public access purposes under a long-term park and recreation lease with the Illinois Historic Preservation Agency. A monument was erected at the confluence of the Missouri and Mississippi rivers to memorialize the Lewis and Clark Expedition encampment, Camp DuBois. The monument is a circular reinforced concrete structure with engraved plaques commemorating each state along the expedition. Facilities include a memorial monument, asphalt parking lot and entrance roadway, and riverside revetment.

<u>Proposed Development</u>: A trail connection to the adjacent off-project development of the Lewis and Clark State Historic Site Interpretive Center located landside of the East Chain of Rocks Canal Levee, and an off-project controlled access gate limiting the area for day use only are proposed.

#### UNIT 2 Chouteau and Gabaret Island

Dam 27 Area
Operations (27-O-2)
Corps of Engineers
Madison County, IL
River Mile 190.3L
Acres: 15
Plate 27-2. S-2

**General Description:** The **Dam 27 Area** includes Dam 27, and the Dam 27 Access.

Dam 27 is located immediately below the Old US 66 Mississippi River Bridge (Chain of Rocks Bridge) on the Mississippi River. The dam is managed as a navigation structure to ensure adequate river depth at low water over the lower miter sill at the old Lock and Dam 26 by creation of a slack water pool created by the dam during low flow periods. The dam is a 3,100-foot structure and consists of rock fill, sheet pile and cutoff wall sections.

**Proposed Development:** No proposed development is planned.

**<u>Future Development</u>**: No future development is planned.

The **Dam 27 Access** is located adjacent to the Mississippi River shoreline and the Dam 27 Illinois abutment. The area is managed for public access purposes and is popular for bank fishing, sightseeing, and bald eagle viewing. The vista provides excellent viewing of the historic Old US 66 Bridge, two historic St. Louis waterworks intake structures, Dam 27, and the Chain of Rocks reach of the Mississippi River. Facilities include a crushed stone parking lot with waterside and southern parking lot barrier guardrail, shoreline revetment, a crushed stone entrance roadway, and two access control gates.

**Proposed Development:** An off-site bike trail will be developed linking the Old US 66 Bridge, the Chain of Rocks Road, the Confluence Bikeway and the new West Levee Access Area to this area. New proposed facilities will include flood-proof security lighting, refuse receptacles, and a concrete ADA compliant ramp for recreational fishing access to the Dam 27 abutment cells. Minimum facility portable toilets are also proposed due to public use of the area that cannot be redirected.

**<u>Future Development</u>**: No future development is planned.

Dam 27 South Revetment Area
Operational Easement (27-E-3)
Corps of Engineers
Madison County, IL
River Mile 189.9 - 190.3L
Acres 1.92
Plate 27-2

<u>General Description</u>: The Dam 27 South Revetment Area is an operations easement located along shoreline immediately downstream of the Dam 27 Access area. The area is managed for navigation purposes under perpetual easement to control bank erosion as a result of the Dam 27 project. The shoreline is revetted in this area.

**Proposed Development:** No proposed development is planned.

Dam 27 North Revetment Area Operational Easement (27-E-4) Corps of Engineers Madison County, IL River Mile 190.3 - 191.3L Acres: 8.60 Plate 27-2

<u>General Description</u>: The Dam 27 North Revetment Area is an operations easement located adjacent to the Mississippi River shoreline immediately upstream of Dam 27 Access Area. The area is managed for navigation purposes under perpetual easement to control bank erosion as a result of the Dam 27 project. The shoreline is revetted in this area.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

North Chouteau Island Area
Vegetative Management (27-MR-V-4)
Corps of Engineers
Madison County, MO
River Miles 193.2 – 194.0 L
Acres: 102
Plate 27-2

General Description: The North Chouteau Island Area is located west of the West Chain of Rocks Canal Levee in the Mississippi River alluvial floodplain. This area consists primarily of a riparian forest community providing habitat for resident, migratory, and endangered and threatened species. The natural hydrology has not been altered, with the exception of a small portion of the area within the Chouteau Island Levee District. Levee and project construction has altered the natural resources. The area is primarily managed to sustain natural riparian forest community through protection.

**Proposed Development:** No proposed development is planned.

**Future Development:** No future development is planned.

South Chouteau Island Area
Vegetative Management (27-MR-V-5)
Corps of Engineers
Madison County, IL
River Miles 191.1 – 191.8 L
Acres: 82
Plate 27-2

General Description: The South Chouteau Island Area is located south of Interstate 270 and west of the West Chain of Rocks Canal Levee in the alluvial floodplain. A mixture of successional and mature growth riparian forest and herbaceous wetland communities provide limited wildlife habitats. The natural hydrology has been altered with the Chouteau Island Levee District, and is not flooded except during major flood events. Levee and public road construction together with both borrow and disposal sites have altered the natural resources. The area is primarily managed to sustain and protect the existing mature riparian forest. Disturbed areas management activities include succession control and annual forage plantings.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

Gabaret Chute Area
Vegetative Management (27-MR-V-6)
Corps of Engineers
Madison County, IL
River Miles 189.0 – 189.7 L
Acres: 133
Plate 27-1

<u>General Description</u>: The Gabaret Chute Area is located west of the West Chain of Rocks Canal Levee in the alluvial floodplain on the southernmost end of Chouteau Island and includes the remaining portion of Gabaret Chute; a once biologically productive side channel of the Mississippi River now converted to a semi-permanent marsh. A mixture of old fields, riparian forest and herbaceous wetland communities provides habitat for resident, migratory, endangered, and threatened species.

The natural hydrology has not been altered with the exception of sedimentation of Gabaret Chute, and is frequently flooded during all but minor flood events. Agricultural clearing and levee and public road construction have altered the natural resources.

The area is primarily managed to sustain and restore natural riparian forest communities through natural succession and restoration plantings. Old field management is accomplished through silviculture techniques, succession control and native plant introduction. Forage plantings for wild turkey habitat are accomplished through partnership agreements.

**<u>Proposed Development</u>**: No proposed development is planned.

Future Development: No future development is planned.

South Gabaret Island Area
Vegetative Management (27-MR-V-7)
Corps of Engineers
Madison County, IL
River Miles 184.3 – 185.5L
Acres: 182
Plate 27-1

<u>General Description</u>: The **South Gabaret Island Area** is located west of the West Chain of Rocks Canal Levee in the southernmost portion of Gabaret Island. A mixture of old fields, riparian forest and herbaceous wetland communities provide habitat for resident, migratory, endangered, and threatened species.

The natural hydrology has not been altered, with the exception of one old field within the Gabaret Island Levee District, and is frequently flooded during all but minor flood events.

Agricultural clearing, and levee and public road construction have altered the natural resources. The area is primarily managed to sustain and restore natural riparian forest communities through natural succession and restoration plantings.

Old field management is accomplished through silviculture techniques, succession control and native plant introduction. Forage plantings for wild turkey habitat are accomplished through partnership agreements.

<u>Proposed Development</u>: No proposed development is planned.

## Potential Development That May Affect Future Management Plans for all Compartment 1, Unit 2 Management Areas

In 1999, an effort to develop a multi-partnered Chouteau Island Recreation Area concept plan was initiated. This effort, if realized, will expand upon and complement the existing bi-state Confluence Greenway Development project in the area and include or affect portions of the Corps managed public lands on the west side of the Chain of Rocks Canal.

Key partners in this plan may include the State of Illinois (IDNR), the City of Madison, Illinois., (Corps has approved requested annexation of the area), Madison County Transit Authority, TRAILNET, Inc., the Corps and other unspecified private organizations and/or public agencies.

The scope of the concept plan includes willing seller acquisition of the Chouteau, Gabaret and Mosenthein Islands complex comprising almost 6,000 acres of private land.

Potential developments identified for this area include bike/hike/equestrian trails, ORV area, camping (primarily for recreational vehicles), picnic areas, habitat restoration projects (wetlands, prairie, forest) outdoor education facilities/areas, golf course, amphitheater, Route 66 and Mississippi River Interpretive Center, Sports Complex and necessary roads, parking, utilities, etc.

Potential plan features that may occur on Corps managed public lands include:

- Hike/Bike Trails
- Equestrian Trails
- Habitat restoration projects
- Picnic areas
- Outdoor education facilities/areas

Current land use in the area is primarily agricultural with some bottomland forests, wetlands and flood control structures (i.e. levees). Federal lands in the area are dedicated to flood damage reduction, operation of the Chain of Rocks Canal and Locks 27 for commercial navigation purposes, habitat management and public use. A large area of private land on Chouteau Island is used as a sanitary landfill. Waste Management, Inc. operates the Chain of Rocks Recycling and Disposal facility at this location. The facility is expected to be closed in October of 2000 and will be capped and converted for recreation-related use in the concept plan.

The proposed Chouteau Island Recreation Development Concept Plan is a tentative long-term effort. The plan will be developed in phases and will require numerous and extensive partnering arrangements, funding sources and operation and maintenance obligations. If the Corps is involved in cost sharing any of this project, a sponsor and Congressional authorization would be required. When plans are finalized for implementation, a supplement to the Master Plan may be required to address those portions and features of the development that may occur on federal lands. This supplement, if required, will need to be approved prior to any formal commitment for development.

## **POOL 26 Compartment 2**

### Riverbend Management Area

**UNIT 1 Environmental Demonstration Area** 

Spur Dike Area Operations (26-O-2) Corps of Engineers St. Charles County, MO River Mile 200.6 – 203.0 R Acres: 120 Plates 26-1, 27-2, 26-MEL

<u>General Description</u>: The **Spur Dike Area** includes a total of eight areas which are described below. The area includes land in both the States of Illinois and Missouri. These lands are closed to hunting and trapping for public and navigation safety as well as for endangered species and migratory waterfowl sanctuary purposes in association with the Melvin Price Locks and Dam waterfowl refuge.

(1) The Melvin Price Locks and Dam Overflow Dike Area is located at RM 200.8 R and is designed to span the area between the abutment closure cells at Pier D-11 and the Spur Dike/Missouri Access Road. Consisting of a 2,000-foot structure of compacted clay embankment and seepage berm with rip rap and soil cement protected slopes, concrete roadway and a sheet pile cut off wall, the dike provides a navigation pool above Mel Price Locks and Dam. Facilities include an 18-foot wide concrete service access roadway and a vehicle turnaround. The undeveloped area consists of disturbed and filled clays, sands and dredge spoil from construction of the Melvin Price Locks and Dam and a few remaining large trees.

**Proposed Development:** Provide safety barriers for public access and project security.

**<u>Future Development</u>**: No future development is planned.

(2) The **Maple Island Access Area** is located adjacent to the Melvin Price Locks and Dam tailwater on the Missouri side of the river channel. The facilities are managed for public access and operations purposes and offers recreational opportunities for touring, wildlife viewing, shoreline fishing, and boat access. The vista offers excellent viewing of bald eagles, migrating waterfowl, and the Melvin Price Locks and Dam. Facilities include a parking lot with waterside guardrail, shoreline revetment, a rock fill deflection dike, an entrance roadway, a concrete service boat ramp, removable vault toilets, a control barrier, refuse receptacles and solar powered security lighting. The IDNR and the MDC have agreed to reciprocate state fishing regulations in this area.

<u>Proposed Development:</u> New facilities include bike lanes and a rehabilitated concrete ramp for public safety and low water access. A cost-share partner is being sought for bike lane development.

Future Development: No future development is planned.

(3) The Melvin Price Locks and Dam Spur Dike Area (RM 200.6203.5 R) runs from the overflow dike approximately two miles upstream to the abandoned railroad embankment north of US67. The structure is managed as a navigation pool spur dike and flood control structure and provides limited public access and recreational opportunities for shoreline fishing. The portion of the dike between US67 and the abandoned railroad embankment is known as the Spur Dike Extension.

Consisting of a 12,672-foot clay and sand filled embankment with a top elevation 430.0 NGVD and a 40-foot crown width, the dike provides minimum navigation pool and is the eastern line of flood protection for the Consolidated North County Levee District. Side slopes are IV on 3H and IV on 4H with landside clay filled seepage berms from 0 to 330-foot widths. The revetment consists of Ellis Bay and Teal Pond riverside revetment to elevation 425.0 NGVD. The gravity drains consist of one upstream gravity drain, bottom elevation 416.5 NGVD, and one downstream gravity drain, bottom elevation 410.0 NGVD, each with twin 60-inch corrugated metal drainage pipes and manually operated sluice gates, and associated drainage ditches.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

(4) The Missouri Access Road Area (Riverlands Way) is located on the spur dike from US 67 to the Maple Island Access Road. The road is managed for public access to Maple Island, Ellis Bay, Teal Pond and the Rivers Project Office and provides operations service access to Melvin Price Locks and Dam, Rivers Project Office and the Rivers Project storage complex. The roadway vista offers excellent viewing of bald eagles and waterfowl in the Prairie Marsh Restoration and Ellis Bay Aquatic Areas. The roadway is a 40-foot wide, a 2-mile asphaltic concrete road with two 12-foot vehicle lanes and two 8-foot bike lanes. The roadway has two connecting spurs: one spur to US 67 to the west and one spur to St. Charles County Wise Road to the south. An access control gate and trilateration station are located at the intersection of Riverlands Way and Wise Road.

<u>Proposed Development:</u> Place revetment on roadside facing Ellis Bay to reduce flood repair and maintenance costs. The trilateration station will be rehabilitated.

**Future Development:** No future development is planned.

(5) The **Rivers Project Storage Complex Area** is located at the Missouri abutment of the Overflow Dike. The complex will be managed as a project storage facility for project equipment, vehicles, parts and supplies. Facilities include a warehouse, security fencing and lighting, a crushed stone parking lot for the warehouse and asphalted vehicle compounds. The old resident office has been demolished.

**Proposed Development:** The area will be converted to a day use area that will include a wildlife overlook, picnic tables, grills, visitor parking area and trail head to the EDA. These projects may be funded through a Challenge Cost-Share Agreement.

<u>Future Development</u>: Relocating the vehicle compound to the warehouse may be an option after a study is completed.

(6) The **Rivers Project Administration Building Area** is located on the Missouri Access Road and includes administration office facilities and a visitor information center. Facilities include an office building, asphalt parking lot, asphaltic concrete entrance road, well house, and appurtenances.

This facility serves as the primary contact point for visitors to the Riverlands Area. A portion of the facility is designated as a Type C Visitor Information Center that includes disabled accessible public restrooms, an information desk, drinking water and open space at the adjacent Access and Tour Control Facility (Environmental Learning Center).

<u>Proposed Development</u>: Prepare a separate DM to request approval for an expanded Type C Visitor Information Center as an addition to the

Rivers Project Office building. Landscape the Rivers Project Office grounds.

Future Development: No future development is planned.

(7) The public Access and Tour Control Facility (ATCF) Area is a temporary facility located adjacent to the Rivers Project Administration Building used to carry out interpretation and educational programming. No formal exhibits are located in the facility due to funding and limited available space. The facility is managed as a visitor access and tour control facility. Facilities include a one-room building and adjacent perimeter and connecting sidewalks to the Rivers Project office parking lot.

**<u>Proposed Development</u>**: The ATCF will be removed when the proposed Type C Visitor Information Center expansion is implemented. The viewing platform and concrete walk will remain intact.

<u>Future Development</u>: No future development is planned.

(8) The **Teal Pond Access Area** is located adjacent to the Teal Pond shoreline and Prairie-Marsh Restoration Area on the Teal Pond Impoundment Levee. The facilities are managed for public access and operations purposes and offer recreational opportunities for touring, wildlife viewing, shoreline fishing, and boat access. The vista offers excellent viewing of waterfowl during migration in the Teal Pond Aquatic Area. Facilities include a crushed stone parking lot with a guardrail, shoreline revetment, three rip rap and crushed stone fishing dikes, a crushed stone entrance roadway, crushed stone service boat ramp, and access control gate. The boat ramp to the Teal Pond Aquatic Area is closed to public boat access during refuge seasons in association with the Melvin Price Locks and Dam waterfowl refuge.

<u>Proposed Development</u>: Construct an ADA compliant fishing pier that was approved in Supplement 3, DM No. 3. Provide refuse receptacles and security lighting.

Future Development: None planned.

Ellis Bay Access Area
Low Density Recreation (26-MR-L-1)
Corps of Engineers
St. Charles County, MO
River Mile 201.5 - 202.3
Acres: 44
Plates 26-1, 26-MEL

<u>General Description</u>: The Ellis Bay Access Area area is located between the Ellis Bay Aquatic Area and the Missouri Access Road on the Spur Dike and surrounds the Rivers Project Office. The area is open to public access and is popular for fishing, sight seeing, picnicking and bird watching. The area vista offers excellent viewing of waterbirds and bald eagles in the Ellis Bay Aquatic Area. These lands are closed to hunting and trapping for public and navigation safety as well as for endangered species and migratory waterfowl sanctuary purposes in association with the Melvin Price Locks and Dam waterfowl refuge.

Constructed and elevated with fill material left over from Melvin Price Locks and Dam construction, this was originally planned as a recreation cost-share development site with the State of Missouri, but the MDNR terminated the agreement in 1987.

Facilities include a 20-car asphalt parking lot, a two-lane asphalt entrance roadway, a crushed stone trailhead, two bulletin boards, vault

comfort station, two access control gates, a kiosk, a concrete pedestrian trail, and a Watchable Wildlife viewing platform. A picnic shelter and seven picnic sites were approved for installation immediately adjacent to the comfort station in Supplement 4, DM No. 3 (Pool 26 Master Plan).

<u>Proposed Development:</u> Three additional picnic sites will be installed near the comfort station. An interpretive trail and trailhead shelter will be installed from the trailhead to the existing concrete walkway, and connect to the Prairie Marsh Restoration Area interpretive trails. Security lighting, and refuse receptacles will be installed for public heath and safety.

**Future Development:** No future development is planned.

Lincoln-Shields Recreation Area Recreation (26-R-3) Corps of Engineers St. Charles County, MO River Mile 201.5 - 203.1R Acres: 167 Plates 26-1, 26-MEL, S-5

<u>General Description</u>: The Lincoln Shields Recreation Area includes the Alton Bay, Ellis Lake and Ellis Island Access Areas. The area is closed to hunting and trapping for public safety. The three access areas are described below.

(1) The **Alton Bay Access Area** is located adjacent to the Mississippi River shoreline and Old Locks and Dam 26 Missouri Abutment. Recreational opportunities at this public access include touring, wildlife viewing, shoreline fishing, picnicking, and boat and bike trail access. The area offers excellent viewing of bald eagles and waterfowl during migration as well as the Alton waterfront, and the Clark Bridge. Two piers, 35 and 36, of the old Locks and Dam 26 were left in place on the Missouri Abutment in this area, and have been converted to a visitor overlook. Facilities include an asphalt parking lot, waterside shoreline revetment, an asphalt entrance roadway, a connecting bike trail link, a handicapped accessible vault toilet, a visitor overlook constructed on Piers 26 and 27 of the old Lock and Dam 26; ten picnic tables, concrete pads and grills; two concrete boat ramps, and two access control gates.

Historical accounts indicate that this site, formerly known as the Tow Head (circa 1840) was the scene of an anticipated duel between Abraham Lincoln and James Shields in 1842. The duel was called off at the last minute by mutual agreement of the participants.

During the Civil War, a group of tents and a wooden shanty on the Tow Head comprised the first hospital for patients of zymotic disease (smallpox, variola, measles, etc.) from the military prison at Alton about one guarter mile west of the old (removed) Clark Highway Bridge.

Initially, only prisoners were treated at the island facility; Federal troops with smallpox and other zymotic diseases were treated in regimental hospitals in downtown Alton. All patients who died of zymotic disease, whether Federal or Confederate soldiers, guard, or civilian prisoners, were buried on the Tow Head after August 1863. Those who died of zymotic disease on the mainland were transported across the river for burial on the Tow Head in the vicinity of the hospital; prisoners with non-zymotic diseases were buried somewhere on the Missouri mainland. It is estimated that burials on the Tow Head total approximately 440.

Close to the end of the war, the Tow Head facility was flooded and a new hospital was constructed on the northwest corner of Ellis Island. However, there is no evidence of burials on Ellis Island.

A monument commemorating the civil war soldiers who died or were buried on the Tow Head was approved for installation in this area by Supplement 4 to DM #3 (Pool 26 Master Plan).

<u>Proposed Development:</u> Proposals include construction of high and low water boat ramp extensions and shoreline sidewalks to ADA standards, installation of boat ramp courtesy docks, replacing the picnic shelter, security lighting, additional park benches, additional picnic tables and grills, interpretive signage, and rehabilitation of the visitor overlook to include lead paint removal and ADA accessibility. An interpretive prospective will be completed for the area to improve visitor usage.

Future Development: No future development is planned.

(2) The Ellis Lake Access Area is located adjacent to the Mississippi River and Ellis Lake shorelines. Public and operational access is from US 67 to the east. Recreational opportunities in the area include sight-seeing, wildlife viewing, shoreline fishing, boat and bike trail access. The area offers excellent viewing of bald eagles and waterfowl during migration. Facilities include a crushed stone parking lot, bike trail bollards, a crushed stone entrance roadway, one access control gate, a gabion pedestrian lake trail, an asphalt service road/bike trail, a crushed stone bike trail, two bulletin boards, crushed stone service boat ramp, and three park benches.

<u>Proposed Development</u>: Relocate and expand the parking lot and boat ramp to reduce maintenance costs. Install security lighting, portable toilets, and refuse receptacles.

Future Development: No future development is planned.

(3) The Ellis Island Access Area is located adjacent to the Mississippi River and Ellis Bay shorelines and is managed for public access purposes and offers recreational opportunities for touring, wildlife viewing, shoreline fishing, and pedestrian trail access. Visitors are plentiful when Bald eagles are present and waterfowl are migrating. Facilities include a crushed stone parking lot with waterside guardrail, shoreline revetment, a crushed stone entrance roadway and service roadway, and one access control gate. The area is restricted to developed trails access during refuge seasons in association with the Melvin Price Locks and Dam Waterfowl Refuge.

**<u>Proposed Development</u>**: Proposals include pedestrian trails, dikes and water control structures for wetland restoration and expansion, asphaltic concrete overlay of parking lot, security lighting, refuse receptacles and minmum facility portable toilets.

Prairie-Marsh Restoration Area
Vegetative Management (26-MR-V-1)
Corps of Engineers
St. Charles County, MO
River Miles 200.5 R – 203.0 R
Acres: 1,112
Plate 26-1, 27-2, 26-MEL

<u>General Description</u>: The Prairie Marsh Restoration Area is located landside and south of the Melvin Price Locks and Dam Spur Dike in the alluvial floodplain. The area consists of a diverse prairie-marsh community and provides resident plant and animal populations, migratory waterbird habitats, and protection of endangered and threatened species. The natural hydrology of these lands has been altered by the Melvin Price Locks and Dam and the Spur Dike with groundwater levels near 419.0 NGVD. Agricultural clearing, farmstead and public road construction have altered the natural resources.

These lands were purchased for project construction requirements and damages due to raised groundwater levels (seepage lands). These seepage lands were identified by the Soil Conservation Service to be measurably reduced for agricultural production where the groundwater table was anticipated to be less than three feet from the surface during the growing season. The Melvin Price navigation pool raised groundwater and surface water levels approximately 16 feet for 2 additional miles of navigation pool along the Spur Dike. These raised water levels created approximately 300 acres of freshwater marshes dispersed throughout the area. The marshes range in size from 70 acres in size to small potholes and flooded drainage ditches with an average water depth of 18 inches. Water management of the marshes is accomplished by gravity flow with gated and stop-log water control structures utilizing the navigation pool as the water source and the tailwater area for drainage.

Letter report authority was granted in April 1989 to establish permanent vegetation on these lands. Prairie grasses and forbs establishment plantings, debris clearing, site renovations, drainage ditches and water control structures were completed in December 1989. A mature prairie plant complex was established in the 1992 growing season. The flood of 1993 inundated the established prairie during the peak growing season of August and September and destroyed approximately 90 percent of the new established prairie vegetation. Surviving prairie plants were limited to those flood tolerant species that were inundated less than 60 days in duration during the growing season. Without a long-term established soil seed bank source, re-establishment prairie planting began after the flood of 1995 again inundated the entire area.

The area is managed to provide, establish and protect permanent vegetative cover for native plant community restoration and wildlife habitat. In addition, some of the potentials noted for the area include public educational opportunities that demonstrate the significance of environmental management, public access opportunities with pedestrian trail access, and educational and research opportunities of wetland and marsh habitats. The permanent and semi-permanent marsh habitats will be managed for shorebird and dabbling duck habitats by gravity flow water management. Prairie and wetland habitats will be managed by prescribed burning, disturbance, and forage plantings. Select forest management will include fire resistant native tree plantings for screening and habitat aesthetics. Facilities include crushed stone and unimproved service roads, pedestrian access trails and trail heads, drainage ditches and stop-log and gated water control structures. The area is closed to all

public use during refuge seasons, restricted to developed trails access during non-refuge seasons, and closed to hunting, trapping and fishing in association with the Melvin Price Locks and Dam Waterfowl Refuge.

<u>Proposed Development:</u> Expand existing interpretive trails and trailheads, and opportunisticly expand existing wetlands and marsh habitats.

**Future Development:** No future development is planned.

Ellis Bay and Teal Pond Aquatic Habitat Areas
Vegetative Management (26-MR-V-2)
Corps of Engineers
St. Charles County, MO/Madison County, IL
River Mile 200.8R-203.0R
Acres: 545
Plates 26-1, 26-MEL

<u>General Description</u>: The Ellis Bay Aquatic Area is located along and adjacent to the Ellis Bay Area, Ellis Island Area, Spur Dike Area and Overflow Area. The area provides habitat for waterfowl, shorebirds and fisheries and during non-refuge periods provides a quiet water recreation area.

This backwater area has a hydrologic connection to the Mississippi River through the old Alton Slough side channel that was originally cut off with the construction of the abandoned railroad and highway embankments immediately upstream. The area has been impounded and is regulated with the navigation pool since 1991 due to the creation of an additional two miles of navigation pool associated with the Melvin Price Locks and Dam. Average water depths are approximately five feet, a combination of the deeper remnant slough channel and submerged islands of less than two feet scattered throughout the area. This type of backwater river environment has been lost within our major river systems due to sedimentation and these losses continue to be a major concern of river managers. The greatest factor to enable this area's prime habitat is its position in relation to the main river channel during periods of high flow and heavy silt laden waters whereby large deposits of silt are avoided.

The area is managed for limited and experimental submersed aquatic plantings, invertebrate introduction, creation and succession control of shorebird habitat dredged sand islands, and restricted public boat access. In addition to the opportunity to view water birds, the area's exceptional water quality offers educational and research possibilities for backwater habitat studies. The area is closed to boats during refuge seasons, restricted to no-wake boating during non-refuge seasons, and closed to hunting and trapping in accordance with the operation of the Melvin Price Locks and Dam Waterfowl Refuge.

<u>Proposed Development</u>: A dredge spoil island for the endangered least tern habitat is proposed.

Future Development: No future development is planned.

The **Teal Pond Aquatic Area** is located within the perimeters of US 67, Missouri Access Road and Spur Dike embankments adjacent to the Teal Pond Access Area. The area provides waterfowl habitat, recreational fisheries and its exceptional water quality offers educational and research opportunities for deepwater lake habitat studies. There is no surface hydrologic connection to the Mississippi River, only groundwater interaction that creates a clear water inland lake, protected from flooding by the Spur Dike.

Groundwater impounded the area as a result of the creation of the additional two miles of navigation pool associated with the Melvin Price Locks and Dam. Floods inundated the area in 1993 and 1995 when the Spur Dike was overtopped. The area's exceptional water clarity and quality initially produced a diverse and unique group of submergent aquatic plant growth including threadleaf pondweed, burhead, and northern/southern jointed spikerush. Water level fluctuations are directly tied to groundwater elevations and fluctuate usually no more than 1 to 2 feet in any year. Average water depth is approximately 4 feet with some holes up to 8 feet deep, for over-wintering fish habitats. Some constructed submerged and emergent islands are scattered throughout the area. This lake environment is unique within the river floodplain and offers opportunities to research and study lost submersed aquatic plant environments of major concern to river managers.

The area is managed for waterfowl refuge habitat, fisheries habitat, and limited public access purposes. Limited and experimental succession control of the lake bottom for spontaneous generation of existing submersed aquatic plant seedbanks, first evidenced during impoundment in 1991, is proposed. The area is closed to public boating during refuge seasons, restricted to trolling motor boating during non-refuge seasons, and closed to hunting and trapping for public safety and in accordance with the operation of the Melvin Price Locks and Dam Waterfowl Refuge.

**<u>Proposed Development</u>**: No proposed development is planned.

**Future Development:** No future development is planned.

Maple Island Ecologic Area Ecologically Sensitive (26-ES-1) Corps of Engineers St. Charles County, MO River Mile 197.7R-200.7R Acres: 454 Plates 27-2, 26-MEL

<u>General Description</u>: The Maple Island Ecological Area is located along the Missouri side of the navigation channel immediately downstream of the Melvin Price Locks and Dam. Public access is from the Mississippi River only, except during low flood river periods when the head island can be accessed by land at the Maple Island Access Area. The area is managed as a natural area for ecological and environmental conservation purposes, consisting of four separate natural islands within Illinois and Missouri. It provides excellent bald eagle day roost habitat with mature cottonwood trees bordering the shoreline. The riparian forest complex offers excellent opportunities for education and research. It is composed of cottonwood, maple and willow trees and wet meadows on the highest elevations.

Management includes protection and limited succession management of the open succession fields to conserve the area as a natural area for ecological and environmental resources. The area is closed to public use during refuge season for migratory birds and due to status as an endangered species sanctuary. It is closed to hunting and trapping in accordance with the operation of the Melvin Price Locks and Dam Waterfowl Refuge.

**Proposed Development:** No proposed development is planned.

#### UNIT 2 Illinois Esplanade

Melvin Price Locks and Dam Area Operations (26-O-1) Corps of Engineers Madison County, IL River Mile 200.8- 202.4L Acres: 190 Plates 26-1, 27-2, 26-MEL, S-4

<u>General Description</u>: The Melvin Price Locks and Dam Area includes the Melvin Price Locks and Dam and Administration Complex Areas and the Wood River Levee Area. The City of Alton has requested annexation of the area. The area is closed to hunting and trapping for public safety and in accordance with the operation of the Melvin Price Locks and Dam Waterfowl Refuge. All three areas are described below:

(1) The Melvin Price Locks and Dam Area is located approximately 2 miles downstream from the decommissioned Locks and Dam 26. The 1,200 foot lock and dam was authorized by Public Law 95-502, Title I -Replacement of Locks and Dam No. 26, Upper Mississippi River System Comprehensive Master Plan, 21 October 1978. Public Law 99-88. supplemental Appropriations Act for 1985, 15 August 1985, authorized the addition of a 600-foot auxiliary lock. Melvin Price Locks and Dam was designed and constructed as a replacement for Locks and Dam No. 26 as part of the Mississippi River Nine-Foot Navigation Project. The locks and dam provide that portion of the continuous Mississippi Nine-Foot Navigation Project to Lock and Dam 25 on the Mississippi River, and LaGrange Lock and Dam on the Illinois River. Facilities include one 110-foot by 1,200-foot main lock, one 110-foot by 600-foot auxiliary lock, and dam with nine tainter gates. Public access is provided on top of the Illinois side of the structure and to a visitor outlook inside the auxiliary control house that overlooks the 1,200 foot lock chamber.

**<u>Proposed Development:</u>** No proposed development is planned.

Future Development: No future development is planned.

(2) The Melvin Price Locks and Dam Administration Complex Area is located immediately adjacent to the Illinois abutment of the Melvin Price Locks and Dam. The complex will be managed to provide facilities for the operation and maintenance of Melvin Price Locks and Dam. Facilities include an asphalt access road, asphalt parking lot, administration and maintenance building, generator building, and appurtenant facilities including fuel tanks.

**Proposed Development:** No proposed development is planned.

**Future Development:** No future development is planned.

(3) The **Wood River Levee Area** is located landside and adjacent to the Illinois Esplanade Recreation Area and along the Mississippi River Illinois shoreline and is managed for public access, flood reduction, and operations purposes. The levee portion is under long term easement with the Alton-Wood River Levee and Drainage District. Facilities include the levee, a crushed stone service access roadway, and access control gate and guardrail. Four trilateration stations are located in this area.

<u>Proposed Development:</u> The Madison County Transit Authority will develop all the levee roadway portions of the Confluence Bikeway that will interconnect bus transfer nodes, park and ride lots, and population centers. Four trilateration stations will be rehabilitated.

Illinois Route 143 Intersection Area Operational Easement (26-E-1) Corps of Engineers Madison County, IL River Mile 200.4- 200.7 L Acres: 8 Plate 27-2

<u>General Description</u>: The Illinois Route 143 Traffic Light Area is an operational easement located at the intersection of the Illinois Esplanade Recreation Area entrance road and Illinois Route 143. The area is managed under perpetual easement for the construction, operation and maintenance of a traffic control signal. Facilities include the traffic signal, Illinois Esplanade entrance road spur, and the Alton Wood River Levee and Drainage Pump District pump station entrance road spur.

**Proposed Development:** No proposed development is planned.

**Future Development:** No future development is planned.

Visitor Center and Illinois Esplanade Recreation Area Recreation (26-R-1) Corps of Engineers Madison County, IL River Mile 199.9 - 200.6 Acres: 43 Plate 27-2. S-4

<u>General Description</u>: The Visitor Center and Illinois Esplanade Recreation Area are located adjacent to the Melvin Price Locks and Dam tailwater on the Illinois shoreline. Access to the area is from Illinois Route 143 to the north. The area is managed as a recreation area and for educational activities. It is very popular for fishing, sightseeing, picnicking, and bird watching including viewing migrating bald eagles.

The **National Great Rivers Museum** is a Regional (Type A) Visitor Center located adjacent to the Melvin Price Locks and Dam Illinois abutment. The Visitor Center and surrounding area is managed as a recreation area and as an educational facility. Area facilities include the visitor center building and a surrounding outdoor plaza.

Management includes park grounds and facilities operation and maintenance, visitor assistance and interpretive educational services. The area is closed to hunting and fishing for public safety.

**Proposed Development:** No proposed development is planned.

**Future Development:** No future development is planned.

The **Illinois Esplanade Recreation Area** is located immediately downstream of the National Great Rivers Museum along the Melvin Price Locks and Dam tailwater. Touring, wildlife viewing, picnicking, bank fishing and educational activities are popular uses of the site. Area facilities include asphalt parking lots, shoreline revetment, a two-lane asphalt entrance roadway, an access control gate, a picnic shelter, a waterborne comfort station, visitor overlook, interpretive trails, and a boat landing and docking facilities.

Management responsibilities include facilities operation and maintenance, visitor assistance and interpretive education services.

**<u>Proposed Development:</u>** Proposed development includes installation of a concrete service boat ramp at the downstream end of the site to

provide for emergency operations and rescue access and bike/hike trail connections. It is also proposed to widen the entrance road and pave the bus landings parking area.

Future Development: No future development is planned.

Alton Riverfront Recreation Area Recreation (26-R-2) City of Alton Madison County, IL River Mile 202.5-203 L Acres: 20 Plate 26-1, S-6

<u>General Description</u>: The Alton Riverfront Recreation Area is located on Corps leased land and the City of Alton commons area along the Mississippi River Illinois shoreline immediately upstream of the US 67 Clark Bridge and is managed for public access purposes. This urban area includes the City of Alton Marina and Riverfront Park.

Public access is from Henry Street in Alton. The Corps 19.96 acre area is managed for public access purposes in conjunction with the City of Alton Marina/Riverfront District Master Plan under long-term park and recreation lease with the City of Alton. Existing facilities include a river walk, boat slips, a floating convenience store/administration building, fuel dock and restrooms, access roadways and parking lots, a boat ramp, restroom, picnic shelter, playground, bicycle trail, and surrounding park area. The area is closed to hunting and trapping for public safety.

**Proposed Development:** Proposed development includes additional parking lots and roadways, an extension of the riverwalk, a pedestrian plaza, a picnic area and landscaping. These items, totaling almost \$9,000,000 will be cost-shared by the Corps, pending approval of DM 25 for the Melvin Price Locks and Dam project.

#### **UNIT 3 Horseshoe Lake**

Horseshoe Lake Mitigation Area
Mitigation (26-M-1)
Illinois Department of Natural Resources
Madison County, IL
Acres: 621
Plate 26-HS

<u>General Description</u>: The Horseshoe Lake Mitigation Area is located three miles east of Locks 27 at Horseshoe Lake, Illinois and includes a part of the Horseshoe Lake State Recreation Area. The area is managed exclusively for mitigation of lost terrestrial habitat and wildlife protection due to construction of the Melvin Price Locks and Dam. The area is managed for fish and wildlife enhancement purposes under a long-term license with the IDNR. The mitigation requirements are the sole responsibility of the Corps.

Archeological investigations of the area have resulted in the identification of significant, dense and widespread historic resources. Due to the unique nature, large number of sites, and the relationship of these sites with the World Heritage Site of Cahokia Mounds, these archaeological remains will be collectively listed as the Horseshoe Lake Archaeological District with the U.S. Department of the Interiors *National Register of Historic Places*. The area is managed to be compatible with the long-term archaeological management goals of the Horseshoe Lake Archaeological District.

**Proposed Development:** No proposed development is planned.

## **POOL 26 Compartment 3**

### Lower Alton Lake Management Area

**UNIT 1 Missouri Bottoms** 

West Alton Conservation Area Wildlife Management (26-MR-W-1) Missouri Department of Conservation St. Charles County, MO River Mile 203.0 - 204.5 R Acres: 1050 Plate 26-1

<u>General Description</u>: The West Alton Conservation Area is located on the right descending bank of the Mississippi River, approximately 2miles upstream from the Melvin Price Locks and Dam. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. The State of Missouri allows waterfowl hunting blinds at the West Alton site, but no water control or enhancement management program is presently being implemented. Siltation has so severely degraded this area that few waterfowl hunting blind sites are accessible for public use.

Infrastructure supporting access to the area is provided by the Alton Lake Access (L-2) and Ellis Lake Access which are managed by the Corps. No infrastructure, other than 15 blind sites, are contained within this area.

<u>Proposed Development</u>: No proposed actions are being considered in this plan if environmental pool management continues to be implemented by the Corps.

However, in lieu of EPM continuing, other development at this site may feature a low-profile earthen dike with a water-control structure to impound approximately 400 acres. A gravity-flow system utilizing stop-logs would probably be used. This structure would be large enough to allow small-boat access through the dike for fishing. A suitable alternative may be to utilize a deep well with a submerged pumping system. Dike and water-control structures will vary depending on physical requirements. Prior to development, a detailed site analysis will be necessary to determine biological and economic feasibility. A portion of the impoundment adjacent to the southeastern shore could be established as a refuge for dabbling ducks and diving ducks with the remainder open to public hunting. Fishing and hunting access is available from Old Highway 94. Public access to the area should be upgraded when the West Alton area is rehabilitated.

**Future Development:** No future development is planned.

West Alton Levee Area Operations (26-O-3) Corps of Engineers St. Charles County, MO River Mile 204.2 Acres: 3 Plate 26-1

<u>General Description</u>: The **West Alton Levee Area** is located west from the intersection of Highway 94 to the government boundary and intersecting with the Consolidated North County Levee. The levee is managed as a flood control structure; the southern line of flood

protection for the Consolidated North County Levee District. The dike consists of a clay filler embankment, top elevation near 432.0 NGVD with a 10-foot crown width with 1V on 3H side slopes. Facilities include a flap gate gravity culvert and an access control gate. The area is open to hunting and trapping in cooperation with MDC.

**Proposed Development:** No proposed development is planned.

**Future Development:** No future development is planned.

Dresser Island Conservation Area Wildlife Management (26-MR-W-2) Missouri Department of Conservation St. Charles County, MO River Mile 205.5 - 209.0 R Acres: 1,259 Plate 26-1

General Description: The Dresser Island Conservation Area is managed for fish and wildlife management purposes under a General Plan and Cooperative Agreements. Brickhouse Slough separates the 950-acre island from the 309-acre Missouri shore portions of this management area. Historically, Dresser Island was a prime wetland/backwater area used extensively by migratory waterfowl, wintering bald eagles and other wetland wildlife species. The wetlands also provided important spawning and nursery areas for river fishes.

Over the years, sediment has partially filled the interior wetlands. Brickhouse Slough has been filled with sediment to such an extent that flows can pass only at high pool stages. Interior water levels can not be controlled due to the lack of a core in the rock closing structures. This has hampered attempts to manage habitat for wildlife.

An Environmental Management Program Habitat Rehabilitation and Enhancement Project (EMP-HREP) was completed on Dresser Island in 1991. The EMP project was designed to rehabilitate the once-prime wetland/backwater habitat by construction of a low profile levee along the entire riverside and enclosure of the lower one-half of the island shoreline facing Brickhouse Slough in order to control deposition of silt during the more frequent flood events. It also included installation of five gated drainage structures to allow control of the water levels on the interior wetlands independent of river stages. Preliminary results indicate that the desired water temperature control is being achieved. In addition, interior water levels were maintained independent of river stage, with only a 1-foot variance, which will allow for the development of moist-soil plant production during future growing seasons.

<u>Proposed Development</u>: Increase the flow of warm water from the Portage Des Sioux Power Plant (Ameren-UE) located immediately upstream from the area into the Dresser EMP-HREP project to improve water control capabilities for wetland wildlife enhancement and overwintering habitat for fish and waterfowl.

Reforest 10-15 percent of the forested areas on the island to hard-mast-producing tree species. Install a pump station to improve control of water levels on the interior wetlands. Dredge the interior wetlands to increase overwintering, spawning and brood fisheries habitat. Control encroaching undesirable woody vegetation on the open wetlands. Seal existing EMP-funded rock causeway and closure structures to increase water control capability. Construct a larger canal (20-foot wide) to connect Brickhouse Slough with the interior wetlands to allow access by boat.

Future Development: No future development is planned.

The **Dresser Island Access** provides access to Brickhouse Slough, Dresser Island, and the river. The area has been managed by MDC for public access under a long-term park and recreation lease. Two one-lane launching ramps provide very limited access for small boats. One is located upstream of a causeway water control structure and the other downstream. Development at this area is limited to the two one-lane gravel boat launching ramps and a small parking lot for approximately 15 cars and trailers.

<u>Proposed Development:</u> This lease will be relinquished and the lease area and facilities will be included within the Dresser Island Conservation Area. Two existing ramps will be consolidated into one and located upstream of causeway. A gravel ramp will be rehabilitated and concrete surfaced. Minimal dredging will be conducted around the boat ramp location to improve accessibility and public safety.

<u>Future Development</u>: Hard surface existing parking lot and entrance road.

Alton Lake Access Area and Recreational Cottages Recreation - Low Density (26-MR-L-2) Corps of Engineers St. Charles County, MO River Mile 204.1- 204.5 Acres: 13 Plate 26-1

<u>General Description</u>: The Alton Lake Access Area is located adjacent to the Alton Lake backwater and Mississippi River shoreline. The area is managed for public and private access purposes and includes the 13.33-acre Alton Lake Recreational Cottages Subdivision, platted with forty-nine lots, and adjacent shoreline. One lot, 1.62 acres, at the termination of Old Hwy 94, is managed for public access purposes. Facilities include a crushed stone boat ramp, parking lot and boat ramp. The boat ramp and channel are silted in and are only usable by small shallow draft boats during maximum regulated pool stages. Ten lots, totaling 1.93 acres, are excluded from public access under private recreation leases to cabin owners. Thirty-eight lots, totaling 9.78 acres, are undeveloped and provide public access to the old Alton Lake backwater and Mississippi River shorelines. The area is closed to hunting and trapping for public safety.

**Proposed Development:** No proposed development is planned.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Alta Villa/Spatterdock Lake Access Area and Brickhouse Slough Recreational Cottages Low Density Recreation (26-MR-L-3) Corps of Engineers St. Charles County, MO River Mile 205.4-207.2 R Acres: 39 Plate 26-1

General Description: The Alta Villa/Spatterdock Lake Access Area is located adjacent to the Spatterdock Lake and Brickhouse Slough shorelines. The area is managed for public and private access purposes and includes the 33.74 acre Brickhouse Slough Recreational Cottages **Subdivision**, platted with 125 lots, a 5.70-acre adjoining land parcel, and adjacent shoreline. Two lots, totaling 0.64 acres, and the 5.70-acre adjoining land parcel are managed for public access purposes. This area is the former Alta Villa commercial concession area. The lease was terminated and the access is being minimally maintained until a course of action is determined by a proposed access study. In the meantime, a Recreation Area Modernization Program (RAMP) proposal has been submitted for the development of day use recreation facilities for this site. Facilities include two crushed stone parking lots, a crushed stone entrance roadway and boat ramp, and a concrete boat ramp. Seventy-three lots, totaling 16.27 acres, are excluded from public access under private recreation leases to cottage owners. Fifty lots, totaling 16.84 acres, are undeveloped and provide access to the Brickhouse Slough and Spatterdock Lake shorelines. The area is closed to hunting and trapping for public safety.

<u>Proposed Development</u>: A RAMP proposal to develop this area has been submitted for approval. This proposal supports the following actions: demolition of existing facilities and removal of vegetation including flood debris, dredging of the boat channel and use of the material to raise the area, replacement of the boat ramp with a two-lane ramp and an ADA compliant loading ramp.

The proposal also covers the relocation of the county road to include bike lanes and the development of a partnership with the county, the state, and Gateway Parks and Trail 2004, to extend bike lanes from the Corps boundary to Hwy 94.

Other actions supported in the RAMP proposal are the establishment of ditch and drainage, protection of the shoreline, creation of an asphalt roadway to the boat ramp and parking lots, creation of an upper area 30-car parking lot with room for expansion and a lower area 30-car/trailer parking lot with room for expansion for another 10-car/trailer parking lot.

Additional site amenities will include security lighting, an ADA compliant vault toilet, ADA compliant sidewalks, a picnic area with grills, picnic tables with hardened surfaces, tree establishment, turf establishment, an ADA compliant bank fishing area with handrails, installation of control gates, ballards, guardrails, posts and cable and signage.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations for the Spatterdock Lake Area.

Ameren - Union Electric
Portage Des Sioux Power Plant Area
Industrial (26-X-1)
Corps of Engineers
St. Charles County, MO
River Mile 209.0-209.8 R
Acres: 354
Plate 26-1

General Description: The Ameren-Union Electric Portage Des Sioux Power Plant Area is located along the Mississippi River immediately upstream of Dresser Island. This area includes a 332.1 acre facility managed as a coal fired electric generating plant and terminal and staging area under a long-term industrial/commercial lease. A 21.45 acre operations easement has also been granted to AmerenUE. The facility requires a multi-modal interface of rail, trucking and water transportation. Facilities in the lease and easement areas include channels and a water intake and outlet structure, as well as a fleeting area for barges located along the shoreline. The area is closed to hunting and trapping for public safety.

**Proposed Development:** No proposed development is planned.

**Future Development:** Investigate the possibility of reducing the acreage of the industrial lease to the minimum amount needed for AmerenUE operations to obtain more open public lands. The reduced acreage could be incorporated within the Dresser Island Conservation and Mile 210 Areas. A possible way to implement this initiative would be a land exchange between the Corps and AmerenUE.

#### **UNIT 2 Piasa**

Piasa Creek Vegetative Management Area Wildlife Management (26-MR-V-3) Corps of Engineers Jersey County, IL River Mile 209.0 209.4 L Acres: 24

<u>General Description</u>: The Piasa Creek Vegetative Management Area bottomland forest is located east of the Piasa Creek Recreation Area and will be managed for vegetative management purposes. The area is closed to hunting.

Proposed Development: No proposed development is planned.

Future Development: No future development is planned.

Piasa Creek Recreation Area Recreation (26-R-4) Illinois Department of Natural Resources Jersey County, IL River Mile 209.0 - 209.4 L Acres: 12 Plate 26-1, S-7

<u>General Description</u>: The Piasa Creek Recreation Area is managed for public recreation purposes under a long-term park and recreation lease with the IDNR. The area lies between Alton and Grafton along the Great Rivers National Scenic Byway (Route 100). The area was improved in 1991 as a cost share project under the Federal Aid in Fish Restoration funding authority. The improvements have made the site ADA compliant. Prior to the Alton Riverfront Marina development this was the most heavily used recreational boater access on the Illinois side of Pool 26. The site still reaches capacity on most weekends during the summer months.

Existing facilities at this area include an entrance road, a paved parking lot for 200 cars with trailers, a four lane concrete boat ramp, floating docks, four picnic sites, a vault toilet building, dusk to dawn security lights and a two-story concession building.

<u>Proposed Development:</u> When the last concession sub-lease expired, a new lease was being considered by IDNR. However, during the 1993 and 1995 floods, the facility sustained considerable damage. It is no longer considered cost effective to refurbish the facility and operate a concession. The IDNR proposes to demolish the structure and clean up the site.

Piasa Harbor Area Recreation (26-R-5) Corps of Engineers Jersey County, IL River Mile 209.4 - 210.0 L Acres: 55 Plate 26-1

<u>General Description</u>: The Piasa Harbor Area is located along the Mississippi River shorelines at the mouth of Piasa Creek and the Great Rivers National Scenic Byway, (Route 100). The area is managed for commercial concession purposes under long-term lease with **Western Boats and Motors, Inc**. The area is popular for boating, fishing, sight-seeing, and access to waterfowl hunting. Facilities include wet slips, a dry storage area, boat store/administration/showroom building, fuel dock, restrooms, boat service and repair facility, access roadways and parking lots, and a boat ramp. The area is closed to hunting and trapping for public safety.

**Proposed Development:** Proposed developments by others include water and electrical distribution systems, site lighting, landscaping, a bath house, a wastewater treatment system plant, and overnight accommodation facilities.

Future Development: No future development is planned.

Lockhaven Harbor Area Recreation (26-R-6) Corps of Engineers Jersey County, IL River Mile 209.4 L Acres: 7 Plate 26-1

<u>General Description</u>: The Lockhaven Harbor Area is located adjacent to the Piasa Creek shoreline immediately upstream of the Highway 100 Piasa Creek Bridge. This area is managed for commercial concession purposes under a long-term commercial concession lease with the **Alton Motor Boat Club, Inc**. The area is very popular for boating, fishing, and as access to waterfowl hunting. Facilities include wet slips, dry storage area, convenience store/administration building, fuel dock and restrooms, boat service and repair facility, access roadways and parking lot, boat ramp, and immediate environs. The area is closed to hunting and trapping for public safety.

**Proposed Development:** No proposed development is planned.

Piasa Creek Ecologic Area
Environmental Sensitive (26-ES-2)
Corps of Engineers
Jersey County, IL
River Mile 209.4 L
Acres: 123
Plate 26-1

General Description: The Piasa Creek Ecologic Area is located adjacent to the Piasa Creek shoreline in the Mississippi River alluvial floodplain. This area consists of both riparian and upland forest communities providing habitat for resident, migratory, endangered, and threatened species. The natural hydrology has been altered due to the regulated navigation pool. The natural resources have been altered by project hydrology. The area is open to regulated hunting and trapping in cooperation with the IDNR. The area is managed to limit development, and sustain and restore the natural riparian forest communities through protection and natural succession.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

Upper Piasa Creek Access Area and Recreational Cottages Low Density Recreation (26- MR-L-5) Corps of Engineers Jersey County, IL River Mile 209.4 L Acres: 9 Plate 26-1

General Description: The Upper Piasa Creek Access Area is located adjacent to the Piasa Creek eastern shoreline. Public access is from Piasa Creek only. The area is managed for public and private access purposes and includes the 8.97-acre Upper Piasa Creek Recreational Cottages Subdivision, platted with twenty-two lots, and adjacent shoreline. Two lots, totaling 1.07 acres, are excluded from public access under private recreation lease to cottage owners. Twenty lots, totaling 7.90 acres, are undeveloped and provide public access to the Piasa Creek shoreline for fishing and wildlife viewing. The area is closed to hunting and trapping for public safety.

**Proposed Development:** No proposed development is planned.

<u>Future Development</u>: A minimum facility landing along the western shoreline is needed for public safety and operations. Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Lower Piasa Creek Access Area and Recreational Cottages Low Density Recreation (26-MR-L-6) Corps of Engineers Jersey County, IL River Mile 209.4 L Acres: 3.21 Plate 26-1

<u>General Description</u>: The Lower Piasa Creek Access Area is located adjacent to the Piasa Creek eastern shoreline. The area is managed for public and private access purposes and includes the 3.21-acre historic Lower Piasa Creek Recreational Cottages Subdivision, platted with 11 lots, and adjacent shoreline. No public access facilities are developed at this time. Ten lots, totaling 2.99 acres, are excluded from public access under private recreation lease to cottage owners. One lot, 0.22 acres, is undeveloped and provides public access to the Piasa Creek shoreline for fishing and wildlife viewing. The area is closed to hunting and trapping for public safety.

<u>Proposed Development:</u> A minimum facility turnaround at the end of the public road is proposed for public safety.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Mill Creek Access Area and Recreational Cottages
Low Density Recreation (26-MR-L-7)
Corps of Engineers
Jersey County, IL
River Mile 209.4 L
Acres: 15.83
Plate 26-1

<u>General Description</u>: The Mill Creek Access Area is located adjacent to the Piasa Creek western and Mill Creek southern shorelines. The area is managed for public and private access purposes and includes the 5.69-acre Mill Creek Recreational Cottages Subdivision platted with 37 lots, a single 10.14 adjacent tract, and adjacent shoreline. No public access facilities are developed at this time. Twenty-three lots, totaling 3.41 acres, and a single tract of 10.14 acres are excluded from public access under private recreation lease to cottage owners and the Catholic Children's Home, Inc. Fourteen lots totaling 2.28 acres are undeveloped and provide public access to the Piasa and Mill Creek shorelines for fishing and wildlife viewing. The area is closed to hunting and trapping for public safety.

<u>Proposed Development:</u> A minimum facility turnaround at the end of the public road is proposed for public safety.

**Future Development:** Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Piasa Island Access Area and Recreational Cottages
Low Density Recreation (26-MR-L-4)
Corps of Engineers
Jersey County, IL
River Mile 209.2 L
Acres: 11.04
Plate 26-1

<u>General Description</u>: The Piasa Island Access Area is located adjacent to the northern shoreline of Piasa Island in the Mississippi River. The area is managed for public and private access purposes and includes the 11.44-acre Piasa Island Recreation Cottages Subdivision, platted with 35 lots and adjacent shoreline. No public access facilities are developed at this time. Eight lots, totaling 1.59 acres, are excluded from public access under private recreation leases to cottage owners. Twenty-seven lots, totaling 9.45 acres, are undeveloped and provide public access to the Mississippi River shoreline. The area is closed to hunting and trapping for public safety.

**Proposed Development:** No proposed development is planned.

**Future Development:** A minimum facility landing along the northern shoreline is proposed for public safety and operations. Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Piasa Island Area
Vegetative Management (26-MR-V-4)
Corps of Engineers
Jersey County, IL
River Mile 208.0 - 209.7 L
Acres: 173
Plate 26-1

<u>General Description</u>: The Piasa Island Area is located on Piasa Island near the mouth of Piasa Creek on the Mississippi River. This area consists primarily of a riparian forest community providing habitat for resident, migratory, endangered and threatened species. The natural hydrology and natural resources have been altered in association with the regulated navigational pool.

Management includes protection and vegetative management practices to sustain and restore the natural riparian forest communities. The area is open to regulated hunting and trapping in cooperation with the IDNR.

**Proposed Development:** No proposed development is planned.

**<u>Future Development:</u>** Due to habitat degradation concerns, a habitat enhancement project will be pursued under the EMP program.

Eagles Nest Island Area
Vegetative Management (26-MR-V-5)
Corps of Engineers
Jersey County, IL
River Mile 209.7 - 210.7 L
Acres: 120
Plate 26-1

<u>General Description</u>: The **Eagles Nest Island Area** is located on Eagles Nest Island in the Mississippi River alluvial floodplain. This area consists primarily of natural riparian forest communities providing habitat for resident, migratory, endangered, and threatened species. The natural hydrology and natural resources have been altered in association with the regulated navigation pool.

Management includes protection and vegetative management practices to sustain and restore the natural riparian forest communities. The area is open to regulated hunting and trapping in cooperation with the IDNR

**<u>Proposed Development</u>**: No proposed development is planned.

<u>Future Development</u>: Due to habitat degradation concerns, a habitat enhancement project will be pursued under the EMP program.

Mile 210 Area
Vegetative Management (26-MR-V-6)
Corps of Engineers
St. Charles County, MO
River Mile 209.9 - 211.0 R
Acres: 250
Plate 26-1

**General Description:** The **Mile 210 Area** is located on the right bank of the Mississippi River alluvial floodplain. This area consists primarily of natural riparian forest communities providing habitat for resident, migratory, endangered, and threatened species. The natural hydrology has been altered in association with the regulated navigation pool. The natural resources have been altered by project hydrology. The area includes created wetlands constructed as part of the adjacent Consolidated North County Levee District construction.

Management includes protection and vegetative management practices to sustain and restore the natural riparian forest communities and water control management of the constructed wetlands. The area is open to regulated hunting and trapping in cooperation with MDC.

**Proposed Development:** No proposed development is planned.

#### **UNIT 3 Portage**

Portage Islands Group Refuge Mark Twain Refuge Complex Wildlife Management (26-MR-W-3) U.S. Fish and Wildlife Service St. Charles County, MO River Mile 212.8R-214 R Acres: 133 Plate 26-2

General Description: The Portage Islands Group Refuge is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. The Portage Islands Group consists of three islands, totaling 232 acres, located in the Mississippi River between RM 213 and RM 214 near Portage Des Sioux, Missouri. Since construction of Lock and Dam 26, the two islands on the upper end of the group have been reduced by almost 90 percent by erosion. One island has eroded to the point that it is now two islands of approximately two acres each. The largest island is becoming more vulnerable to the rivers current. There are several small sloughs and an open backwater on the large island.

During the 1993 flood, the islands were completely covered by the swollen waters of the Mississippi River from March through late September. Strong river currents and deep waters eroded the upstream end of the largest island, killing many hardwoods and further eroding the banks.

Eagles use the island primarily from December through March, with the birds using the island perimeter trees for resting and perching. In the past, a pair of bald eagles nested on the upstream end of Slim Island, about a mile upstream from the Portage Island Group.

Waterfowl use is difficult to document due to the distance and inaccessibility of the island group. The habitat does favor the nesting of wood ducks and some use by other puddle ducks. Great blue herons and great egrets are commonly seen feeding along the perimeter of the island. Both species nest in rookeries on the islands just upstream of the island group. The Portage Island Group is used extensively by wintering gull and tern species for feeding and resting.

Public use of Portage Island Group is limited to boat access only. During the summer months, the area receives high visitation by weekend boaters using the island beaches for picnicking and sunbathing. There are no facilities or infrastructure developed on the island group.

<u>Proposed Development:</u> Due to erosion/sedimentation action causing habitat degradation and loss of island mass it is proposed to study and develop a structural solution. A possibility includes a bullnose rock dike and/or chevron, to promote stabilization of the islands and sediment accretion that would develop shorebird habitat and restore structural diversity of the island group. It is also proposed to evaluate potential modifications to existing wing dams in the island group vicinity to enhance habitat.

EMP Projects that are in place, such as Pharrs Island in Pool 25 and Stag Island in Pool 24, have similar functions/purposes to those needed at Portage. Potential authorization/funding sources may be EMP or A&M.

Mile 215 Conservation Area Wildlife Management (26-MR-W-4) Missouri Department of Conservation St. Charles County, MO River Mile 214.6 - 215.9 R Acres: 294 Plate 26-2

<u>General Description</u>: The Mile 215 Conservation Area is located on the right bank of the Mississippi River approximately two miles upstream from the town of Portage Des Sioux. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. The Mile 215 Area is primarily a moist soil/wetland habitat area. Resource potential and hunting opportunities could be enhanced by a habitat improvement program. Public access in the area is limited and needs to be addressed. Detailed site analysis and survey information are required to assess the feasibility of developing any wildlife management enhancements for this area. No facilities or infrastructure have been developed in this area.

<u>Proposed Development:</u> An access road right-of-way must be obtained and developed to legally enter this area from land. Preparation of a Real Estate Design Memorandum by the Corps will be required to initiate this or the MDC could accomplish it themselves. A gravel parking lot would be required. No other actions are being considered in this plan if EPM continues to be implemented by the Corps.

<u>Future Development</u>: Deepen selected backwater slough areas to a depth of 8 to 10 feet by dredging to restore suitable slackwater habitat for overwintering fish and enhance resting and roosting habitat for wetland migratory birds.

Slim Island Area
Ecologically Sensitive (26-ES-3)
Corps of Engineers
St. Charles County, MO
River Mile 215.0 - 216.1 R
Acres: 43
Plate 26-2

<u>General Description</u>: The **Slim Island Area** is located on Slim Island in the Mississippi River alluvial floodplain. This area consists of primarily natural riparian forest communities providing habitat for resident, migratory, endangered, and threatened species. The natural hydrology has been altered in association with the regulated navigation pool. The natural resources have been altered by project hydrology.

Management includes methods to sustain and restore the natural riparian forest communities and historic bald eagle nest sites, such as natural succession and protection. The area is closed to public access during the refuge seasons for endangered species sanctuary purposes and open to regulated hunting and trapping during non-refuge seasons in cooperation with the MDC.

**Proposed Development:** No proposed development is planned.

# **POOL 26 Compartment 4**

# Upper Alton Lake Management Area

**UNIT 1 Confluence Islands** 

Sherwood Harbor Area Recreation (26-R-7) Corps of Engineers St. Charles County, MO River Mile 219.1 R Acres: 11 Plate 26-2, S-8

<u>General Description</u>: The Sherwood Harbor Area is located adjacent to the Mississippi River and Sherwood Lake shorelines immediately upstream of the old Grafton Ferry location. This area is managed for commercial concession purposes under a long-term lease with Club Sherwood Marina, Inc. The area is popular for boating and fishing. Facilities include wet slips, dry storage area, convenience store/administration building, fuel dock, portable restrooms, boat service and repair facility, access roadways and parking lots, a boat ramp, and immediate environs. For safety purposes, the area is closed to hunting and trapping.

**Proposed Development:** No proposed development is planned.

**Future Development:** No future development is planned.

Sherwood Lake Access Area and Recreational Cottages
Low Density Recreation (26-MR-L-8)
Corps of Engineers
St. Charles County, MO
River Mile 218.5 - 219.5R
Acres: 52.38
Plate 26-2

<u>General Description</u>: The Sherwood Lake Access Area is located adjacent to the Sherwood Lake and the Mississippi River southern shorelines. The area is managed for public and private access purposes and includes the Sherwood Recreation Cottages Subdivision, platted with 54 lots, a single adjacent tract, and adjacent shoreline. No public access facilities are developed at this time. Two lots are utilized by the Club Sherwood Marina commercial concession leasehold. Twenty-six lots, totaling 10.53 acres, are excluded from public access under private recreation leases to cottage owners. Twenty-six lots totaling 9.35 acres, and a single 32.50-acre tract to the south are undeveloped and provide excellent public access to the Sherwood Lake and Mississippi River shorelines. For safety purposes, the area is closed to hunting and trapping.

**<u>Proposed Development</u>**: A minimum facility turnaround at the end of the road is proposed for public safety.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety and project operations.

Perry Island Area
Vegetative Management (26-MR-V-7)
Corps of Engineers
St. Charles County, MO
River Mile 218.5 - 221.0 R
Acres: 282
Plate 26-2

<u>General Description</u>: The Perry Island Area is located on Perry Island and adjacent shorelines in the Mississippi River alluvial floodplain. This area consists of primarily natural riparian forest and succession communities providing resident, migratory, endangered, and threatened species habitats. The natural hydrology has been altered in association with the regulated navigation pool, while the natural resources have been altered by agricultural trespass and project hydrology. The area is managed to sustain and restore the natural riparian forest communities and historic bald-eagle nest sites. The area is open to regulated hunting and trapping in cooperation with the MDC.

**<u>Proposed Development</u>**: No proposed development is planned.

Future Development: No future development is planned.

Mason Island and Island 526 Conservation Area
Wildlife Management (26-MR-W-5)
Missouri Department of Conservation
St. Charles County, MO
River Mile 218.2 - 220.5 R
Acres: 344
Plate 26-2

<u>General Description</u>: The Mason Island and Island 526 Conservation Area is located at the confluence of the Mississippi (RM 220) and Illinois Rivers. The 280-acre Mason Island and adjacent 64-acre Island No. 526 comprise this management area. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. No facilities or infrastructure have been developed.

**<u>Proposed Development</u>**: No proposed development is planned.

**Future Development:** No future development is planned.

Island No. 525 Area
Ecologically Sensitive (26-ES-4)
Illinois Department of Natural Resources
Calhoun County, IL
River Mile 219.5 - 220.0 L
Illinois River Mile 1.5 - 2.1 R
Acres: 59
Plate 26-2

<u>General Description</u>: The Island 525 Area is located at the confluence of the Illinois and Mississippi Rivers, on the Illinois side of the navigation channel. The island is covered by bottomland forest and is the location of a large heron rookery. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. There are no facilities on the island.

The IDNR conducts annual surveys to locate heron rookeries, and to determine the health of previously identified rookeries. The area is periodically checked to prevent any disturbances to the rookeries.

**Proposed Development:** No proposed development is planned.

## **UNIT 2 Golden Eagle**

Dardenne and Bolter Islands Conservation Area Wildlife Management (26-MR-W-6) Missouri Department of Conservation St. Charles County, MO River Mile 224.5-228.0 Acres: 1,352

<u>General Description</u>: The Dardenne and Bolter Islands Conservation Area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. Bolter Island is located between RM 224.5 and RM 226. Sedimentation has greatly diminished the quality and quantity of interior wetlands on this 562-acre island, which has now become heavily forested through natural succession.

Dardenne Island is located between RM 226 and RM 228. Due to sedimentation, the interior wetland/sloughs on the lower half of this 790-acre island have largely disappeared. No facilities or infrastructure exist on the islands.

**Proposed Development:** EMP projects have been proposed for Dardenne and Bolter Islands. On the 790 acre Dardenne Island, restoration of an estimated 320 acres of wetland habitat could be accomplished by constructing dikes and flow control structures, installing deep wells to manipulate water levels during migration periods, deepening portions of the interior wetlands, and selective small-scale clearing of less desirable hardwood timber. On the 562-acre Bolter Island, a 160-acre wetland restoration would consist of a low levee with drainage control structures, deepening portions of the interior wetlands, and selective small-scale clearing of less desirable hardwood timber.

It is also proposed to raise approximately 200 acres of former agricultural lease fields 12 to 18 inches with dredge fill and incorporate this material with the existing soils to a depth of 12 to 18 inches. This area can then be planted with hard-mast-producing tree species. Possible dredge fill could come from either the Bolter-lowa Islands Navigation Channel dredging area or a closer adjacent site.

**Future Development:** Remove accumulating sediment in the managed wetland complex on Dardenne Island. Evaluate feasibility of developing public river access on the Missouri shore in the Dardenne Island - Apple Island vicinity. This stretch of the river on the Missouri bank is currently without any public river access.

Oriole Island Area
Vegetative Management (26-MR-V-8)
Corps of Engineers
St. Charles County, MO
River Mile 228.4 - 229.0 R
Acres: 68
Plate 26-3

<u>General Description</u>: The **Oriole Island Area** is located on Oriole Island. Public access is from the Mississippi River only. The area is currently managed for wildlife habitat purposes except for a 0.75-acre roadway and river ferry landing site managed for operation of the Golden Eagle Ferry under a long-term easement with the Calhoun-St. Charles Ferry Company, Inc. This area consists of primarily natural riparian forest communities providing habitat for resident, migratory, and endangered and threatened species. The natural hydrology and natural resources

have been altered in association with the regulated navigation pool. The area is closed to hunting and trapping for public safety due to its close proximity to the Golden Eagle Ferry Landing.

The area is managed to sustain and restore the natural riparian forest communities.

<u>Proposed Development</u>: This area was formerly under a General Plan and Cooperative Agreement with the Missouri Department of Conservation and will now be included within this direct-managed Corps area. No proposed development is planned.

**Future Development:** In response to public concerns expressed about lack of public river access in this section of the river in Missouri, the area will be evaluated as a potential cost-shared or leased public access development for use by the general public.

In the absence of an acceptable river access proposal for this area, potential minimum facility needs will be evaluated for public health and safety, and operational needs.

#### **UNIT 3 Cuivre Island**

Cuivre Island Mitigation Area
Mitigation (26-M-2)
Missouri Department of Conservation
St. Charles County/Lincoln County, MO
River Mile 235.5R-238.0 R
Acres: 862
Plate 26-4

General Description: The Cuivre Island Mitigation Area is located on Cuivre Island in the Mississippi alluvial floodplain. The area is managed exclusively for mitigation of lost terrestrial wildlife habitat and wildlife protection due to construction of the Melvin Price Locks and Dam under a long term Fish and Wildlife License with the MDC. The mitigation requirements are the sole responsibility of the Corps. The area consists of one tract with a mixture of riparian forests and old fields. The natural hydrology had been negligibly altered by the Locks and Dam system. The natural resources have been altered significantly by agricultural clearing in the past. This mitigation area is managed along with other adjacent MDC lands as the Cuivre Island Conservation Area.

The project area consists of the 1,342-acre Cuivre Island, the western bank of the Mississippi River adjacent to the island, Cuivre Slough, and Turkey Island-Phelans Island Chute. Turkey Island Chute and approximately 100 mainland acres of Cuivre River wetland are included.

Sedimentation is a primary problem in this upper reach of Pool 26. The chutes, sloughs, backwater areas and wetlands have declined in size, depth and quality. An EMP-HREP project to alleviate these problems included removal of an existing closure structure, construction of new gated drains, cleaning out of some drainage ditches and installation of wells. This project was cost-share funded under the EMP program and construction was completed in 1999.

Other features of the EMP project included clearing of high elevation sites and reforesting to hard-mast-producing trees. Existing facilities include sluice, gated and/or stop-log water control structures at seven sites and three wells to provide for water level management.

The EMP project also included deepening the slough between Cuivre Island and Turkey Island (Turkey Slough) by an experimental towboat prop wash method.

**Proposed Development:** Reforest all former agricultural lease fields (120 acres) to a diverse composition of bottomland hardwoods that produce hard-mast and fruit. Connect all existing sloughs through further ditching to accommodate drainage for wetland management. Construct hard points in Cuivre slough to create scour holes to restore fisheries habitat and remove sediments.

**Future Development:** Maintain interior wetlands as needed by dredging to increase longevity of valuable wetland habitat. Reforest another 10 percent of existing forested habitat to hard-mast-producing bottomland hardwoods. Dredge Turkey Slough to a depth of 12 feet approximately one-half mile in length for overwintering fisheries habitat.

Cuivre Island Access Road Area Operations Easement (26-E-2) Corps of Engineers Lincoln County, MO River Mile 238.0 R Acres: 4 Plate 26-4

<u>General Description</u>: The Cuivre Island Access Road Area is located on the western shore of Cuivre Slough. A public road provides access to the area. The area is managed for operations access under perpetual easement to assure land-based access to the island. No facilities are developed at this time.

**Proposed Development:** No proposed development is planned.

# **POOL 26 Compartment 5**

Illinois & Mississippi Confluence Area

**UNIT 1 Calhoun Point** 

Calhoun Point Wildlife Management Area Wildlife Management (26-MR-W-7)
Illinois Department of Natural Resources Calhoun County, IL
River Mile 219.5 - 223.4
Illinois River Miles 2.1 - 5.0 R
Acres: 2,057
Plates 26-2, 26-3, 26-CON

<u>General Description</u>: The Calhoun Point Wildlife Management Area is located at the confluence of the Mississippi and Illinois Rivers and is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. This site contains 416 acres of interconnected lakes and sloughs, 1,466 acres of bottomland forest and 175 acres of agricultural fields.

The 1993 flood devastated the timber resources at Calhoun Point; the mortality rate is estimated to be between 70 percent and 80 percent. Management activities at the site include planting of crops through a lease tenant agreement that provides a food base for resident and migratory species. The largest agricultural field has three pit blinds available for public goose hunting. There is a series of terrace levees within this agricultural field that are flooded annually to enhance waterfowl use and improve harvest opportunity. Annually, in June or July, the 400-plus acres of lakes and sloughs are drained to river levels and then pumps are used to de-water until approximately 75 percent of the lake bottoms are exposed. The exposed substrate promotes moist soil plant production. In the fall, water is pumped into the lakes, flooding the developing plants, making them available for migratory birds and enhancing public boat access.

Facilities include earthen dikes, service access roads, two pump sites (one for discharge and one for input) and several gated tube water control structures.

Calhoun Point Wildlife Management Area was proposed as a Habitat Rehabilitation and Enhancement Project (HREP) under the Environmental Management Program (EMP). A Definitive Project Report (DPR) for the HREP is approved and funding is available for construction in 2001. The objectives of the HREP are to reduce the siltation of the site, compartmentalize the various water areas for optimum management ability and install pumps and water control structures to optimize and assure water level control. The project also includes some dredging to reestablish deep-water fisheries habitat and improve water movement between the various compartments.

**Proposed Development:** The Silver Lake Access, Pohlman Slough Access, and Royal Landing Access will be managed as part of this area. Pohlman Slough and Royal Landing access areas have been historically managed by IDNR under a long-term park and recreation lease. These areas will be removed from the lease and the areas and facilities will be included within this area.

Future Development: No future development is planned.

The **Pohlman Slough Access Area** provides boat access to Pohlman Slough and Royal Lake. The site is principally utilized for hunting, boat

fishing and bank fishing. This access also serves as the parking and access point to three field pits, which are available for public goose hunting. Facilities include an access road, a one-lane concrete boat ramp to Pohlman Slough, a crushed stone parking lot at this ramp, a one-lane crushed stone boat ramp and parking lot at Royal Lake, and four vault toilets, two at each parking lot.

<u>Proposed Development:</u> Previously mowed acres will be planted with mast trees.

**Future Development:** Future development includes reforestation of most of the former lease area.

The **Royal Landing Access Area** provides boat access to the Mississippi River. Adjacent to the site is a dredge material placement site, which is heavily utilized as a beach. The sand dunes east of this area also contain an endangered plant: the salt meadow grass. Facilities at this site include an access road, a 40 car and trailer crushed stone parking lot, and a one-lane concrete boat ramp.

<u>Proposed Development</u>: In recent years, river channel training structures have been constructed upstream of this location to reduce the amount of maintenance dredging in this section of the river. These structures are expected to eventually render the boat ramp at Royal Landing useless, due to deposition from the river. It is proposed that this access be relocated to a more suitable location.

**<u>Future Development:</u>** It is proposed to demolish all facilities and vehicular access at the original site once the access can be relocated to a more suitable location.

The **Silver Lake Access Area** provides access to several small lakes and sloughs in the southeast portion of the management area. Fishing and hunting are the principal uses of the area. The site is a minimally developed. Existing facilities include an access road which is leased from adjacent private property owners, a 30-car and trailer crushed stone parking lot, a hunter check station, a one-lane concrete boat ramp, a 40-car crushed stone gravel parking lot, and a vault toilet.

Proposed Development: Before 1993, the access road to this location was owned by private individuals, who leased a right-of-way to the IDNR. A total of 17 acres was in private ownership, with many cabin sites on the premises. Since the 1993 flood, many of the cabins were destroyed or unsalvageable and FEMA has since acquired the entire 17 acres. The property is now cleared of all remaining structures and deeded to Calhoun County. It is proposed that the St. Louis District secure this property for addition to the Calhoun Point Wildlife Management Area (WMA) to be managed by the IDNR. Existing access conditions at the site are eroding and in poor physical shape due to years of inundation by flood waters and provide inadequate vehicle circulation. It is proposed that, if management of the area can be secured from Calhoun County, the old check station be demolished, a loop road be developed and a new portable check station be constructed that can be removed annually to preventing flood damage.

Deer Plain Access Area and Recreational Cottages Low Density Recreation (26-MR-L-9) Corps of Engineers Calhoun County, IL Illinois River Mile 3.2 - 4.4 R Acres: 33.57 Plate 26-2

General Description: The Deer Plain Access Area is located adjacent to the Pohlman Slough western and Illinois River southern shorelines. The area is managed for public and private access purposes and includes the Deer Plain Recreational Cottages Subdivision, platted with 129 lots, and adjacent shorelines. No public access area is developed at this time. Thirty-five lots, totaling 9.41 acres, are excluded from public access under private recreation leases to cottage owners. Ninety-four lots, totaling 24.16 acres, are undeveloped and provide excellent public access to the Pohlman Slough and Illinois River shorelines. For safety purposes, the area is closed to hunting and trapping.

<u>Proposed Development:</u> A minimum facility turnaround on the public access road is proposed for public safety.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health, safety and project operations.

### **UNIT 2 Four Islands**

Iowa/Enterprise Islands Area
Vegetative Management (26-MR-V-9)
Corps of Engineers
Calhoun County, IL
River Mile 221.7 - 225.0 R
Acres: 520
Plate 26-3

<u>General Description</u>: The lowa/Enterprise Islands Area includes lowa, Enterprise, 521, and 518 Islands in the Mississippi River alluvial floodplain. This area primarily consists of natural riparian forest and succession communities providing habitat for resident, migratory, endangered, and threatened species. The natural hydrology has been altered in association with the regulated navigation pool and the natural resources have been altered by agricultural and project hydrology and channel maintenance.

Management includes protection and natural succession to sustain and restore the natural riparian forest communities. The area is open to regulated hunting and trapping in cooperation with MDC.

<u>Proposed Development</u>: This area was formerly under a General Plan and Cooperative Agreement with the IDNR and will be included within this direct managed Corps area. No proposed development is planned.

# **POOL 26 Compartment 6**

# Lower Illinois River Management Area

**UNIT 1 Swan Lake Refuge** 

Calhoun Division Refuge (Includes Swan Lake)
Mark Twain Refuge Complex
Wildlife Management (26-MR-W-8)
U.S. Fish and Wildlife Service
Calhoun County, IL
Illinois River Mile 5.0-10.5 R
Acres: 3,983
Plates 26-5. 26-3

<u>General Description</u>: The Calhoun Division Refuge of Mark Twain Refuge Complex is located along the Lower Illinois River. Total acreage for the Calhoun Division is 4,833. Of this, about 850 acres are USFWS fee title owned lands.

The Calhoun Division is located a few miles north of the confluence of the Mississippi and Illinois rivers in Calhoun County, Illinois, and is approximately 20 air miles north of St. Louis, MO. The Division consists of agricultural lands and buffer strips, forest, moist soil units, lakes, ponds, sloughs, and established grasslands. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. The **Swan Lake Access** and **Blooms Landing Access** are included within this area.

Management activities have long centered on moist soil units and croplands. Limited grass seedlings and bottomland hardwood tree plantings have taken place in the past 10 years, which have added to the diversity of the corridor.

Wetlands of the Calhoun Division consist of narrow, shallow sloughs (some of which are managed as moist soil units) on the floodplain between the Illinois and Mississippi Rivers; constructed moist soil units with varying degrees of water control potential; and Swan Lake, which was greatly enlarged when construction of Lock & Dam 26 on the Mississippi River elevated water levels and flooded pre-existing sloughs. The 2,600-acre Swan Lake provides a resting and feeding area for ducks (mostly dabblers), geese and other water birds.

Swan Lake also provides valuable backwater habitat for a large variety of riverine fishes. Recently, it has been determined to be a very important post-spawning feeding and resting habitat for paddlefish.

Silt deposition from upland erosion and flooding is a chronic problem, slowly filling in the lake.

The Refuge currently manages seven moist soil units and wetlands, totaling 213 acres, which, during normal years, provide food to migratory birds. Water is pumped from Swan Lake through a network of feeder ditches to the units.

The moist soil units have varying degrees of water management capability. Each unit is managed for the production of natural vegetation beneficial to waterfowl and other migratory birds using standard moist soil management techniques. Vegetation produced in these units may include wild millet, pigweed, pinkweed and nutsedges.

Yorkinut, Schoolhouse Lake and Duck Pocket are shallow, natural sloughs associated with the Illinois River. All have limited, or no, water

management capabilities and are primarily dependent on spring flooding or precipitation to fill them.

About 1,000 acres of forest lands exist on the Division. They are composed of early successional tree species occupying narrow riparian zones, which border Swan Lake and the Illinois River. Species are predominantly silver maple, green ash, box elder, eastern cottonwood and black willow. Wildlife use is typical of this plant community; white-tailed deer are regularly seen and several furbearers are present. Larger trees bordering Swan Lake and the Illinois River provide perches for wintering bald eagles. Wild turkeys are regularly seen within the narrow belt of trees surrounding Swan Lake.

Currently, only minimal management of these habitats takes place on either USFWS or Corps owned lands.

The cropland program on Calhoun Division is conducted under cooperative agreement with local farmers. Approximately 560 acres of land are managed to produce crops for wildlife purposes, primarily on Service fee title land.

A 25-acre area of native prairie grasses and forbs, planted around the Visitor Center/Office is well established. Three grasses contribute most of the biomass: big bluestem, switchgrass and Indiangrass. Forbs present include bush-clover (Lespedeza spp.), lead-plant (Amorpha canescens), tick trefoil (Desmodium spp.) and compass-plant (Silphium laciniatum). Prescribed burning is accomplished on a rotational schedule to remove litter and to discourage invading woody species. Several species of migrating sparrows exist in the tall grasses of the prairie and white-tailed deer, bobwhite quail and mallards are commonly observed.

Numerous ditches, low level dikes, gated culverts and stop log structures are maintained throughout the refuge to service the moist soil and agricultural compartments. One sheet pile diesel pump station is used to flood many of the moist soil units from Swan Lake waters.

A UMRS-EMP-HREP is constructed at Swan Lake to improve habitat management capabilities. Project infrastructure includes eight miles of sediment deflection dike between Swan Lake and the Illinois River. A large stop-log structure with service bridge is installed at the lower end of the lake to allow water transfer between the Illinois River and the lake. One permanently-installed 30,000 GPM concrete diesel pump station is in the middle section of the Lake as well as a stop log structure. The lake has been compartmentalized into two units through the construction of a cross dike using dredge fill material. A series of islands were constructed in both lake units to reduce wind fetch and provide habitat diversity.

The USFWS Management Office and Maintenance Complex is located on the western side of Lower Swan Lake on USFWS property.

<u>Proposed Development</u>: The USFWS will conduct extensive testing and monitoring of HREP project performance and effectiveness, and make any necessary adjustments to optimize habitat conditions. One or more overlooks will be installed at key location(s) on the Division for Watchable Wildlife purposes.

<u>Future Development</u>: Expand moist soil and other wetland management areas. Conduct moist soil field leveling work to compensate for sedimentation losses and improve water delivery. Expand fishing opportunities.

The **Swan Lake Access Area** includes a 12-foot wide boat ramp, a 1,200-foot long crushed stone entrance road, and a 5 car parking lot along the west shore of lower Swan Lake constructed as part of the

Swan Lake HREP. The area was developed as mitigation for closing off lake access via the Illinois River. The ramp is open to the public year round, except during peak fall migration (October 15 – December 15) and during floods.

<u>Proposed Development:</u> A handicapped-accessible recreational fishing pier is proposed for this site by USFWS. Concept plans include expanding the vehicle/trailer parking, adding interpretive and environmental education panels, adding an ADA compliant transfer dock by the boat ramp, and a bank fishing platform.

The **Blooms Landing Access Area** includes a 12-foot wide boat ramp, 1,250-foot long crushed stone entrance road, and a 5 car parking lot along the west shore of Swan Lake constructed as part of the Swan Lake HREP. The area was developed as mitigation for closing off access via the Illinois River. The ramp is open to the public year round, except during peak fall migration (October 15 - December 15) and during floods.

**Proposed Development:** A handicapped-accessible recreational fishing pier, interpretive panels, and other public use improvements are proposed for this site by the USFWS. Concept plans include expanding the vehicle/trailer parking, adding interpretive and environmental education panels, adding an ADA compliant transfer dock by the boat ramp, and a bank fishing platform.

## **UNIT 2 Gilbert Lake Refuge**

Gilbert Lake Division Refuge Mark Twain Refuge Complex Wildlife Management (26-MR-W-9) U. S. Fish and Wildlife Service Jersey County, IL Illinois River Miles 4.0 – 7.0 L Acres: 655 Plate 26-5

<u>General Description</u>: The **Gilbert Lake Division Refuge** is located along the Illinois River, left bank, between RM 4 and RM 7. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. Approximately 735 acres in size, it consists of 655 acres of cooperative agreement lands and 80 acres of land leased by the USFWS from the State of Illinois.

The wetlands of this refuge consist primarily of Gilbert Lake and bottomland forests. These areas are currently managed for migratory bird habitat and preserving the bottomland hardwood ecosystem. Gilbert Lake is a shallow, abandoned channel of the Illinois River, approximately 250 acres in size. Past management practices have relied on pumping to de-water the lake for growing moist soil plants in the spring, and to recharge the area to make this food source available for migrating birds in the fall. However, silt deposition in the lake and feeder ditch has dramatically decreased management operations.

Annual flooding, particularly through the 1990s, has significantly contributed to the demise of Gilbert Lake by silt deposition. No areas are currently managed as moist soil units. Some of the agricultural units on the Division are high enough to escape all but the most serious floods.

Approximately 250 acres of bottomland forests on the Division are dominated by mature silver maple, cottonwood and sycamore. Mast producing trees include pin oak, pecan, green ash and walnut. A variety of lowland shrubs and woody vines also are present.

Division Woodlands are still affected by the flood of 1993 and subsequent floods. Mortality rates among bottomland hardwood species such as oak, hackberry, box elder, sycamore and elm have been averaging 45 percent to 50 percent. Pecan, silver maple and cottonwood have fared better.

Wildlife use of these deciduous woodlands is typical of the Midwest. White-tailed deer are regularly seen and several furbearers are present. Large cottonwood trees bordering the Illinois River provide excellent perches for wintering bald eagles. Eagle numbers are larger than would be expected due to the operation of the Brussels Ferry adjacent to the refuge, which churns up the water stunning fish and preventing a hard ice cover. An active eagle nest is also present on the Division.

Much of the original cropland maintained for wildlife purposes on the Division has been withdrawn from the Cooperative Farming Program because of the need to protect the Duncan Farm Archaeological Site. Annual tilling had encouraged archaeological violations. Most of the retired acreage is seeded to native warm-season grasses to discourage vandalism and looting.

The re-established prairie may be used by mallards for nesting, due to its proximity to Gilbert Lake. Deer beds are common. A variety of migrating sparrows and other upland birds and mammals also take advantage of

the grassland habitat. Maintenance burning on a 3-year cycle is done to discourage tree encroachment and maintain prairie grass productivity.

Boltonia decurrens, a federally listed threatened plant species is found at Gilbert Lake and is being studied and protected.

Public use on the Gilbert Lake Division consists primarily of sport fishing, hiking and wildlife observation (mostly birding). The only vehicle access is along the overlook, parallel to Route 100. From this area, the prairie may be viewed and waterfowl, turkey and deer may be seen. The 3-mile service road that runs between the Illinois River and Gilbert Lake is closed to public vehicle access, and is designated as a hiking trail. Bank fishing is the most popular activity at Gilbert Lake, particularly in the early summer. The lake normally receives consistent fishing pressure on the east end where access is easiest, since the area is closed to vehicles. Bullhead, drum, carp and an occasional catfish constitute the bulk of the catch. Boats are not allowed, except from the river when the flood overtops the levee.

Existing facilities/infrastructure includes three miles of gated service road that also serves as a water control levee, a permanently installed electric water pumping station, and one gated water control structure.

After the flood of 1993, the roadway and spillway underwent major rehabilitation and repair. Some limited dredging near the proposed pump location was also done at that time.

<u>Proposed Development</u>: Chronic lack of adequate water control has severely limited management capability at the site. The existing pump system will be replaced. Moist soil management areas will be developed where feasible.

A service road through the Pere Marquette State Park lease area will remain gated, but walk-in public access to the refuge will be permitted from this location.

*Future Development:* No future development is planned.

The Gilbert Lake Access Area is not currently developed.

<u>Proposed Development:</u> The Pere Marquette State Park access area has been historically managed by IDNR under a long-term park and recreation lease. No development has occurred on this lease area. This area will be removed from the lease except for one acre and the areas and facilities will be included within the Gilbert Lake Division Refuge.

It is proposed to provide a public access parking lot and/or turnaround off of State Highway 100 onto the refuge. Currently no parking area exists and public users must park along the highway adjacent to the refuge. This is not a safe and workable situation.

Pere Marquette State Access Area Recreation (26-R-8) Illinois Department of Natural Resources Jersey County, IL Illinois River Mile 6.9 Acres: 1 Plate 26-5

<u>General Description</u>: This one acre area is located at Illinois RM 6.9 and was formerly used as a Pere Marquette State Park Access Area. The area is managed for public access purposes under long term park and recreation lease. The site is located on the north tip of the Gilbert Lake Division of the Mark Twain Refuge managed by the USFWS.

<u>Proposed Development</u>: It is proposed that this lease be reduced to one acre and the acreage included in the Gilbert Lake Refuge under Cooperative Agreement to the USFWS.

#### **UNIT 3 Stump Lake**

Stump Lake Wildlife Management Area Wildlife Management Area (26-MR-W-10) Illinois Department of Natural Resources Jersey County, IL
Illinois River Miles 7.4 – 13.0
Acres: 2,958
Plate 26-5

General Description: The Stump Lake Wildlife Management Area is part of a total managed acreage of 3,580, of which 2,958 acres are owned by the Corps and 622 acres are owned by the IDNR. This site contains 1,181 acres of water, 413 acres in agricultural fields, 100 acres of borrow areas and levee and 1,886 acres of bottomland forest. The water acreage is made up of six different lakes: Upper Stump, Lower Stump, Long Lake, Flat Lake, Deep Lake and Fowler Lake. The site is very popular for fishing, hunting and wildlife observation, with access from Long Lake, Dabbs Road and from Pere Marquette Harbor parking lot. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. Two former adjacent commercial concession park and recreation lease areas have been interim managed and maintained by the Corps.

A major Stump Lake EMP-HREP was completed in 1998. The project features include a perimeter levee to deflect river borne silt, a series of interior levees to compartmentalize the various water bodies, installation and construction of gated tube and stop log water control structures, dredging to improve fisheries habitat and a large two-way pump station for optimum water control capabilities. The success of the silt deflection dike is visually obvious. Areas on the riverside of the levee are rapidly accreting while the interior elevations are remaining almost static. The ability to stabilize water levels and improve water clarity has already proven to be the correct combination. In 1996, macrophytes returned to Lower Stump Lake and, in 1997, the same success was noted in Upper Stump Lake and portions of Flat Lake. The reestablishment of the macrophyte communities are a major objective for the project and represent the return of a habitat type which has been extirpated from many Illinois River backwaters for decades

The bottomland forest at this site is diverse. On the north end of the WMA, there are still good numbers of mast trees with evidence of regeneration. Typically, the east side, which is furthest from the river, contains the best species composition. On the south end, the majority of the timber stand is comprised of silver maple, ash and willow.

Management activities, with the completion of the HREP, are conducted by compartment and response of the biotic communities from manipulation of the abiotic elements. The return of the macrophyte communities to Upper and Lower Stump Lakes will dictate a modification of the drawdowns. Flat Lake which received the dredge spoil for Long Lake will be intensively de-watered and managed for moist soil plants until such time the substrate can be solidified and is able to promote a return of the macrophytes. Fowler Lake will be treated the same as Flat Lake, while Long Lake and Deep Lake will be held to full pool, to benefit the fisheries resource.

An integral part of the management efforts at Stump Lake, is the Crull Refuge. The refuge is approximately 130 acres, which include 40 acres of flooded green timber, 65 acres of flooded crops and 25 acres of small grains and green forage.

Existing facilities at the Stump Lake WMA include a perimeter levee for silt deflection and summer flood protection, interior earthen dikes for compartmentalizing the various water bodies, a 53,000 GPM two-way pump station, numerous gated tube water control structures, a concrete fish passage structure and two concrete stoplog/boat passage structures. Public access facilities are provided at Long Lake and Dabbs Road Access Areas and from Pere Marquette Harbor parking lot. These access areas are discussed individually below.

<u>Proposed Development</u>: The former Stump Lake Landing Strip and Deep Lake Access park and recreation leases were not renewed. The Stump Lake access area has been historically managed by IDNR under a long-term park and recreation lease. The Stump Lake Access Area will be removed from the lease, and this area, the former commercial concession lease areas, and former park and recreation leased areas and their facilities will be included within the Stump Lake WMA.

The completion of the HREP at Stump Lake WMA has left many acres of borrow pits from dike construction. It is proposed to install water control structures on the borrow pits. The objective is to manage for moist soil plants in the pits and develop an additional 50 plus acres of managed herbaceous wetlands.

Much of the land around Dabbs Road is in agricultural production. It is proposed to construct a low level dike and install a water control structure in the agricultural fields. The dike will extend far enough to capture flow from two waterways, making a seasonal wetland approximately 10 acres in size.

During construction of the HREP, the slash piles from the clearing operations were covered with dirt. This was to anchor the slash during times of high water. It is proposed to plant pin oaks on the mounds, in an effort to enhance the dwindling populations of mast trees in the bottomland forest.

There is an abandoned agricultural field north of the Dabbs Road project. It is proposed to excavate the low portion of the field creating a seasonal wetland. The spoil materials will be deposited in ridges on the higher ground. These ridges would then be planted to mast trees.

**Future Development:** It is proposed to investigate expanding the Crull Refuge. This would include the construction of low level dikes around some of the existing agricultural fields and incorporating water control and pumping ability.

The **Dabbs Road Access Area** provides boat access to Lower Stump Lake, and foot traffic to the AT&T underground cable levee which divides Stump Lake into upper and lower compartments. Prior to the EMP habitat project at the Stump Lake WMA, Dabbs road served as the main boat access to lower Stump Lake. The completion of the project has provided for access from Long Lake via a water control structure between the two. The boat access is generally used for hunting and fishing. However, the AT&T levee is very popular for bank fishing and wildlife observation.

This site is minimally developed. Existing facilities include an access road, a gravel parking lot for 30 cars with trailers, a one-lane concrete boat ramp and two vault toilets.

<u>Proposed Development</u>: There are no further developments planned for this location.

Future Development: No future development is planned.

The **Stump Lake Access Area** is also commonly known as Long Lake Access Area and is accessible from Route 100. The area is the main

access point for the Stump Lake WMA. The site is heavily used for boating, bank fishing and waterfowl hunting. The access road lies parallel to the Crull Impoundment which serves as a waterfowl refuge. This makes it a popular stop for wildlife observation, as well.

Existing facilities include an access road, an asphalt surface parking lot for 70 cars with trailers, a one-lane concrete boat ramp providing access to Long Lake, a gravel parking lot for 12 cars, a one-lane gravel ramp for access to Fowler Lake, a hunter check station, a concrete block vault toilet and a gravel overflow parking lot on the old Long Lake Tavern lease property.

<u>Proposed Development</u>: Due to the EMP improvements on the Stump Lake WMA, use of this access is increasing and there is a need for expanded parking area. It is proposed to maintain the old tavern parking lot as a gravel overflow parking facility.

Future Development: No future development is planned.

Powerline Access Area and Recreational Cottages
Low Density Recreation (26-MR-L-10)
Corps of Engineers
Jersey County, IL
Illinois River Miles 10.2 - 11.8 L
Acres: 17.99
Plate 26-5

General Description: The Powerline Access Area is located adjacent to the Illinois River eastern shoreline. The area is managed for public and private access purposes and offers recreational opportunities for wildlife viewing and shoreline fishing. This area includes the Powerline Recreational Cottages Subdivision, platted with eighty lots, and adjacent shorelines. No public access facilities are developed at this time. Forty-five lots, totaling 10.17 acres, are excluded from public access under private recreation leases to cottage owners. Thirty-six lots, totaling 7.82 acres, are undeveloped and provide public access to the Illinois River shoreline. For safety purposes, the area is closed to hunting and trapping.

<u>**Proposed Development:**</u> A minimum facility turnaround on the public road is proposed for public safety.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Coon Creek Access Area and Recreational Cottages
Low Density Recreation (26-MR-L-11)
Corps of Engineers
Jersey County, IL
Illinois River Miles 11.8 - 12.6 L
Acres: 48.83

**Plate 26-5** 

<u>General Description</u>: The Coon Creek Access Area is located adjacent to the Illinois River eastern shoreline. The area is managed for public and private access purposes and offers recreational opportunities for wildlife viewing and shoreline fishing. This area includes the 48.83 acre Coon Creek Recreational Cottages Subdivision, platted with 129 lots, and adjacent shorelines. No facilities are developed at the time. Sixty-three lots, totaling 21.31 acres, are undeveloped and provide public access to the Illinois River shoreline. Sixty-six lots totaling 27.52 acres

are excluded from public access under private lease. For safety purposes, the area is closed to hunting and trapping.

<u>Proposed Development:</u> A minimum facility turnaround on the public road is proposed for public safety.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

### **UNIT 4 Fuller Lake**

Fuller Lake Wildlife Management Area Wildlife Management (26-MR-W-11) Illinois Department of Natural Resources Calhoun County, IL Illinois River Miles 10.8 - 13.0 Acres: 1,067 Plates 26-5, 26-6

General Description: The Fuller Lake Wildlife Management Area contains 347 acres of water, 160 acres of agricultural land and 560 acres of bottomland forest. The water acreage is made up of three water bodies; Upper Swan Lake, Fuller Lake and Beaver Pond. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. Phase One of the Swan Lake EMP-HREP included construction of a silt defection dike around the Fuller Lake area and a two-way pump station for Fuller Lake. The deflection levees success is apparent. It is visually obvious that the rate of accretion is much higher on the river side of the levee, than on the interior. The Fuller Lake Access is included within this area.

Management activities include the planting of crops to provide food and cover for both resident and migratory species. This includes several acres of sunflower and small grains, which are then manipulated for dove hunting. Annually in June or July, the 347 acres of water is gravity drained to river levels and then pumps are used to de-water until approximately 75 percent of the lake bottoms are exposed. The exposed substrate promotes moist soil plant production. In some years, aerial seeding of Japanese Millet provides additional food resources. In the fall, water is pumped into the lakes, flooding the developing plants, making them available for migratory birds and accommodating public boat access.

Infrastructure at this area includes earthen dikes, service access roads, gated tube water control structures and a pump station.

#### **Proposed Development:**

The south boundary of this area adjoins the Swan Lake Refuge, managed by USFWS. The shared line runs parallel with the power line right of way, while approximately 300 yards north is the main water control levee for the Fuller Lake complex. There is no physical access to this portion of the water, from the north. Therefore, it is proposed that the boundary line be moved to the earthen levee, and jurisdiction of the 21 acres south of the levee be transferred to USFWS for management.

Construction of the EMP silt deflection dike created three borrow areas. These borrows pits have approximately six inches of water in them when the lake is pumped full. The installation of a stop log structure in each of the borrow pits will allow an increase in water depth and surface acres through pumping. It is proposed to plant small grains in the borrow pits and pump an additional 18 inches of water into them. These areas will provide wetland habitat and serve as rest areas for waterfowl.

It is proposed to remove the Hadley Landing Access from the park and recreation lease and include in the Fuller Lake WMA as described below.

<u>Future Development</u>: Annually dense stands of milo and pearl millet are strip-planted along the site entrance road and on the river side of the deflection levee. These plantings serve as filter strips to accumulate silt when the river is flooding. The filter strip plantings along the largest agricultural field increase the accretion along the riverbank, creating a

natural swale, between the ridge and the deflection levee. The natural swale will be managed as a seasonal wetland in the future.

The **Fuller Lake Access Area** provides boat access to Fuller Lake WMA The site is used primarily for hunting and fishing with some limited bank fishing in the river near the parking lot. Existing facilities at this site include a one-lane concrete boat ramp and a gravel parking lot for approximately 30 cars with trailers. This access is a minimally developed access with no future development plans.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

The **Hadley Landing Access Area** is located adjacent to the Illinois River shoreline. The public access area is managed for public access purposes and offers recreation opportunities for wildlife watching, shoreline fishing and boat access. Facilities include a crushed stone parking lot and entrance roadway, and a concrete boat ramp.

<u>Proposed Development</u>: The Hadley Landing access area has been historically managed by IDNR under a long-term park and recreation lease. This area will be removed from the lease and the area and facilities will be included within the Fuller Lake WMA and maintained by the IDNR.

### **UNIT 5 The Glades**

The Glades Wildlife Management Area,
Twelve Mile Island and Hembold Island
Wildlife Management (26-MR-W-12)
Illinois Department of Natural Resources
Jersey County, IL
Illinois River Mile 12.4 - 16.3
Acres: 2,099
Plate 26-5

**General Description:** The 1,591-acre **Glades Wildlife Management Area**, contains 328 acres of water, 65 acres in agricultural lease and 1,198 acres of bottomland forest. The area is bisected by the Illinois River. Twelve Mile Island is 223 acres in size and contains a 6-acre lake and 217 acres of bottomland forest. Hembold Island is 285 acres and includes a 28 acre bottomland/lake area. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreements.

Twelve Mile Island is accessible by boat only. Twelve Mile Island has a small earthen levee, a gated culvert water control structure and a pump site, where a 12,000 GPM portable pump is utilized for fall pumping. The island is principally used for hunting and the six-acre lake has two blind sites. The bottomland forest mix is diverse but silver maple and cotton-wood mix are dominant, typical of the younger successional forest stands along the river. The six-acre lake is perched and goes dry when the river is at pool level for extended periods. Management activities at the site include pumping Twelve Mile Island each fall to create seasonal wetland habitat.

The 328-acre lake at the Glades WMA is also perched. The site is primarily used for hunting, with some fishing activity during periods of floods. The bottomland forest is a cottonwood/silver maple composition, with a few mast trees in the mix. The lake is interspersed with islands of button bush and large areas of a monoculture of marsh smartweed. At the Glades, the lake is drained annually in June or July to promote moist soil plant production. Some years the exposed lake bottom is aerially seeded with Japanese Millet to enhance food plant production. Annually, the areas of marsh smartweed are treated chemically and/or mechanically, to promote annual plant communities. Each fall the lake is refilled providing excellent herbaceous wetland habitat. An agricultural lease tenant program also provides wildlife food for resident and migratory species.

Infrastructure at the Glades includes a 25,000 GPM pump, portable power unit and fuel tank, gated tube water control structures, service roads, boat access channels and drainage ditches. Public use facilities are identified in the access area descriptions for Compartment 6. This area has been identified as a future EMP project.

<u>Proposed Development:</u> It is proposed to create a concrete surfaced spillway at the existing Glades WMA drainage structure as an EMP funded project.

Remove the Glades Access from the park and recreation lease and include in the Glades WMA

Future Development: Future development may include an EMP project.

The **Glades Access Area** provides boat access to Twelve Mile Island area and the Glades WMA. It is popular for hunting, boating and bank fishing and wildlife observation. Existing facilities at this location include

an access road, two-lane concrete boat ramp for access to the Twelve Mile Island WMA, a gravel parking lot at the river ramp for 30 cars with trailers, a one-lane concrete boat ramp for access to the Glades WMA, a gravel parking lot at the Glades ramp for 45 cars, a hunter check station, two vault toilets, two water control structures and a 25,000 GPM pump station with distribution system to provide water control on the Glades WMA and Stump Lake WMA

<u>Proposed Development:</u> The Glades access area has been historically managed by IDNR under a long-term park and recreation lease. This area will be removed from the lease and the area and facilities will be included within the Glades WMA.

Future Development: No future development is planned.

Otter Creek Access Area and Recreational Cottages
Low Density Recreation (26-MR-L-12)
Corps of Engineers
Jersey County, IL
Illinois River Mile 14.9 - 15.1 L
Acres: 11.41
Plate 26-5

<u>General Description</u>: The Otter Creek Access Area is located adjacent to the Illinois River left bank. The area is managed for public and private access purposes and offers recreational opportunities for wildlife viewing and shoreline fishing. The area includes the Otter Creek Recreational Cottages Subdivision, platted with 33 lots, and adjacent shorelines. Sixteen lots, 5.32 acres, are excluded from public access under private recreation leases to cottage owners. Seven lots, totaling 6.09 acres, are undeveloped and provide public access to the Illinois River shoreline. For safety purposes, the area is closed to hunting and trapping.

<u>Proposed Development:</u> A minimum facility turnaround on the public access road is proposed for public safety.

**<u>Future Development</u>**: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

# **POOL 26 Compartment 7**

# Upper Illinois River Management Area

**UNIT 1 - Mortland Island Complex** 

Mortland Island Area
Vegetative Management (26-MR-V-10)
Corps of Engineers
Calhoun County, IL
Illinois River Mile 17.8 - 19.8 R
Acres: 413
Plate 26-6

<u>General Description</u>: The Mortland Island Area is located on Mortland Island in the Illinois River alluvial floodplain. This area consists of primarily natural riparian forest communities providing habitat for resident, migratory, endangered, and threatened species. The natural hydrology has been altered in association with the regulated navigation pool and the natural resources have been altered by agriculture and project hydrology.

Management includes protection to sustain and restore the natural riparian forest communities. The area is open to hunting and trapping in cooperation with the IDNR.

<u>Proposed Development:</u> This area, formerly included in the General Plan and Cooperative Agreement with the IDNR, is proposed to be included within this direct managed Corps area.

## **UNIT 2 Godar Diamond Hurricane Complex**

Godar-Diamond-Hurricane Island Wildlife Management Area
Wildlife Management (26-MR-W-13)
Illinois Department of Natural Resources
Calhoun County, IL
Illinois River Mile 23.0-28.3 – R
Acres: 2051
Diamond Island: 658,
Hurricane Island: 397,
Godar Refuge: 996
Plates 26-6. 26-7

<u>General Description</u>: The Godar–Diamond–Hurricane Island Wildlife Management Area complex consists of three wildlife management areas including Diamond Island, Hurricane Island and Godar Refuge. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreements.

Diamond Island is a 658-acre area, which contains 292 acres of water, 40 acres in agricultural fields and 326 acres of bottomland forest. The 292-acre lake has filled with sediment to the point that the site is perched. Management of the site includes providing small grain and row crop food production, for resident and migratory wildlife, on the 40 acres of agricultural land. The 292-acre lake is intensively managed for moist soil plant production for the benefit of migratory species that utilize this habitat type, and provide quality waterfowl hunting opportunity. Existing facilities at Diamond Island include earthen dikes, a 34,000 GPM, two-way pump station (one pump for discharge and one for filling the lake) with portable power unit and fuel tank, a gated tube water control structure and a boat pullover.

Hurricane Island is 397 acres in size, which contains 59 acres of water, 18 acres in agricultural fields and 320 acres of bottomland forest. This lake basin has suffered the same fate as Diamond Island, from sedimentation. The management objectives are the same as those for Diamond Island. Hurricane Island facilities include a 9,000 GPM one-way pump station with portable power unit and fuel tank for filling the lake, a gated tube water control structure and a boat pullover.

The Godar Refuge is 996 acres, comprised of 327 acres of water, 208 acres of agricultural field, approximately 300 acres of bottomland forest and approximately 161 acres woody encroachment, which is predominantly willow. The management objective is to produce waterfowl food through row crops, small grains and moist soil plants coupled with optimum water control. Improvements including construction of a contour levee, optimizing water level management capabilities, controlling the willow encroachment zone and maximizing waterfowl use of the food resources. No hunting is allowed in this refuge zone. Existing facilities at the Godar Refuge include earthen levees, a 30,000 GPM two-way, hydraulic pump station with portable power unit and fuel tank, a two ton stationery jib crane for pump removal, six gated tube water control structures and a pump site to facilitate pumping above the contour terrace levee. This area has been identified as a future EMP project.

**Proposed Development:** It is proposed to develop an EMP project to expand habitat management capability at Godar Refuge through construction of an earthen levee in the 280-acre agricultural levee. The levee will be constructed along the timber edge, allowing the flooding of approximately 100 acres of waterfowl food between the levee and the naturally accreted river ridge. Included in this development will be stop

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log over-flow structures, a pump station with portable power unit and fuel tank and interconnected drainage ditches.

Remove the Godar-Diamond Access from the park and recreation lease and include in the Godar-Diamond WMA

<u>Future Development</u>: Future development for this area may include an EMP project.

The **Godar-Diamond Access Area** offers boat access to the Illinois River. The site is a popular access for hunting, fishing and summer time recreational boating. The shade afforded by the large cottonwood, maple and pecan trees make this area popular for bank fishing.

Existing facilities at this site include an access road, gravel parking lot for 75 cars with trailers, hunter check station, two-lane concrete boat ramp, a concrete block vault toilet, dusk to dawn security lights and two-way pump station to provide water control on Godar Refuge.

<u>Proposed Development</u>: The Godar-Diamond Access area has been historically managed by IDNR under a long-term park and recreation lease. This area will be removed from the lease and the area and facilities will be included within the Godar Diamond Hurricane Island WMA

## **UNIT 3 Kampsville**

Michael Wildlife Management Area (Tarpey Bottoms)
Wildlife Management (26-MR-W-14)
Illinois Department of Natural Resources
Calhoun County, IL
Illinois River Mile 27.0 - 28.8
Acres: 101
Plate 26-7

General Description: The Michael Wildlife Management Area contains 101 acres, of which 75 acres are water, 10 acres agricultural fields and 16 acres bottomland forest. This site shares the same management objective as Diamond and Hurricane Islands. Facilities at Michael Bottoms include an 8,000 GPM one-way pump station, with portable power unit and fuel tank and a stoplog overflow water control structure. The area is managed for fish and wildlife enhancement purposes by the IDNR, under a General Plan and Cooperative Agreement.

<u>Proposed Development:</u> Remove the Michael Landing Access from the park and recreation lease and include in the Michael WMA

**Future Development:** No future development is planned.

The **Michael Landing Access Area** offers boat access to the Illinois River. The site is a popular access for hunting, fishing and summer time recreational boating.

Existing facilities at this site include an access road, 20 car and trailer crushed stone parking lot, single-lane concrete boat ramp, and a dusk to dawn security light.

<u>Proposed Development</u>: The Michael Landing Access Area has been historically managed by IDNR under a long-term park and recreation lease. This area will be removed from the lease and the area and facilities will be included within the Michael Wildlife Management Area.

Future Development: No future development is planned.

Willow Island Area
Vegetative Management (26-MR-V-11)
Corps of Engineers
Calhoun and Green Counties, IL
Illinois River Mile 28.8 - 31.2 R/L
Acres 247
Plate 26-7

<u>General Description</u>: The Willow Island Area includes Willow and Crater Islands and adjacent shoreline lands in the Illinois River alluvial floodplain. This area was formerly under a General Plan and Cooperative Agreement with the Illinois Department of Natural Resources and is now included within this direct managed Corps area. The area consists of primarily natural riparian forest and succession communities and old fields providing habitat for resident migratory, endangered and threatened species. The natural hydrology and natural resources have been altered in association with the regulated navigational pool. Management includes protection to sustain and restore the natural riparian forest communities and wetlands restoration. The area is open to hunting in cooperation with the IDNR.

**Proposed Development:** No proposed development is planned.

Michael Access Area and Recreational Cottages
Low Density Recreation (26-MR-L-13)
Corps of Engineers
Calhoun County, IL
Illinois River Mile 27.4
Acres: 6.23
Plate 26-7

General Description: The Corps' Michael Access Area is located on the right bank of the Illinois River. The area is managed for public and private access purposes and offers recreational opportunities for wildlife viewing and shoreline fishing. This area includes the Michael Landing Recreational Cottages Subdivision, platted with 28 lots, and adjacent shorelines. Fifteen lots totaling 3.39 acres are excluded from public access under private recreation lease to cottage owners. Thirteen lots totaling 2.84 acres are undeveloped and provide public access to the Illinois River shoreline. For safety purposes, the area is closed to hunting and trapping.

**Proposed Development:** No proposed development is planned.

**<u>Future Development</u>**: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Kampsville Lock and Dam Access Area Low Density Recreation (26-MR-L-14) Corps of Engineers Calhoun and Green Counties, IL Illinois River Mile 31.2 - 31.6 R & L Acres: 28 Plate 26-7

<u>General Description</u>: The Kampsville Lock and Dam Access Area is located on the Illinois River left and right banks. The area is managed for pubic access purposes and offers recreational opportunities for wildlife viewing, shoreline fishing and historic properties interpretation. The area includes the Kampsville Lock and Dam abutment site. The site will be evaluated for its historical significance and possible inclusion on the *National Register of Historic Places*. No public access is developed at this time. The area is closed to hunting for public safety.

<u>Proposed Development:</u> Developments including a crushed stone access road, self guided historic and archeological interpretive trail, waterborne comfort station, potable water, boat access, security lighting, picnic tables and grills are proposed and could be developed in partnership with the City of Kampville.

Craters Landing Access Area and Recreational Cottages
Low Density Recreation (26-MR-L-15)
Corps of Engineers
Calhoun County, IL
Illinois River Mile 28.9 - 29.2 R
Acres: 3.36
Plate 26-7

<u>General Description</u>: The Crater Landing Access Area is located adjacent to the Illinois River left bank. The area is managed for public and private access purposes and offers recreational opportunities for wildlife viewing and shoreline fishing. This area includes the Craters Landing Recreational Cottages Subdivision, platted with fourteen lots, and adjacent shorelines. Two lots, totaling 0.45 acres, are excluded from public access under private recreation leases to cottage owners. Twelve lots, totaling 2.91 acres, are undeveloped and provide excellent public access to the Illinois River shoreline. No public access facilities are developed at this time. For safety purposes, the area is closed to hunting and trapping.

<u>Proposed Development:</u> A minimum facility turnaround on the public road is proposed for public safety.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

# **POOL 25Compartment 8**

Illinois Management Area

**UNIT 1 Lower Pool 25** 

Batchtown Wildlife Management Area Wildlife Management (25-MR-W-1) Illinois Department of Natural Resources Calhoun County, IL Mississippi River Mile 242.0 - 246.0 L Acres: 2,540 Plate 25-1

<u>General Description</u>: The IDNR's **Batchtown Wildlife Management Area** lies immediately above Lock and Dam 25 and is bordered on the north by the USFWS Batchtown Refuge. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement and is heavily used for waterfowl hunting (eighty blind sites). It is a popular fishing area when water levels approach full pool.

When impounded in 1940, the area was a large open water bay. Years of sediment deposition have filled over 30 percent of the open water converting it to terrestrial habitat. Today, the area is represented by a series of scoured side channels on the north, flowing toward the bluff, which meet and flow past Cockrell Hollow Access Area. The accreted ridges are in various stages of succession, from herbaceous in the south to forested in the north. The lower half still retains an open water bay, which is gradually being lost due to sedimentation.

Batchtown has a rich waterfowl history, well known and used by waterfowl hunters from the 1940s through the 1970s. Since then, a steadily declining pattern in harvest, hunter use and habitats has occurred. There are multiple reasons for this decline. Pool 25 is one of the three pools on this end of the system that are managed by a hinge point water control method. When flows begin to increase, the down stream gates are adjusted to maintain a given water level at the hinge point that is located mid-pool. What this means to Batchtown is that the normal high/low wetland hydrology is reversed at the site. In addition, increased runoff in the upstream watershed, fluctuating pool levels, numerous flood events and extended durations of high flows have been detrimental to the Batchtown WMA

An EMP-HREP is being developed for the Batchtown WMA In addition, Pool 25 is one of three pools where a multi-agency planning team is studying an ecosystem approach to management of the pool. In conjunction with this effort, the St. Louis District Corps is evaluating our environmental pool management program. The program centers on providing a minimum 24-inch drawdown at the dam, for a period of at least 30 days, during the early summer. This manipulation of levels exposes the substrate, allowing the germination of natural food producing plants valued as waterfowl feed. Pool 25 is also the subject of an 1135 Study, investigating the potential for changing pool management from hinge point to a choice of hinge point or dam point for environmental enhancement purposes.

When river flows increase in the fall/winter, the pool can go on tilt, effectively de-watering the Batchtown WMA Because of this, there are times when the WMA is inaccessible and hunters are stranded in the harbor at Cockrell Hollow. There is no state managed boat access area for the Batchtown WMA

<u>Proposed Development</u>: The Batchtown EMP - HREP project began construction in 1999 with completion anticipated in 2002. Project features include the construction of a perimeter dike, various stop-log and gated water control structures, pump station and dredging for water control and fish overwintering habitat. The overall objective is to reduce the amount of silt entering the area and to provide water level management capabilities independent of the river pool.

Turner Island is scheduled to receive pumping capabilities for improved management. The USFWS will transfer management of the Lower Pool and Turner Island of the Batchtown Refuge to IDNR.

<u>Future Development</u>: Future development for this area is not considered in this plan.

The **Titus Hollow Access Area** previously provided access to the Batchtown WMA and public hunting area. It included a boat harbor, boat ramp and boat access channel to the WMA Hillside erosion from the Turner Branch has filled the boat harbor and access channel to the Batchtown WMA Today the area functions only as an access for hunters seeking deer, turkey and squirrel. Existing facilities include an access road and unimproved 10 car parking lot which will be maintained for forest game hunting and wildlife observation access.

<u>Proposed Development</u>: The Titus Hollow Access Area has been historically managed by IDNR under a long-term park and recreation lease, but will be removed from the lease and the area and facilities will be included within the Batchtown Wildlife Management Area.

Future Development: No future development is planned.

Cockrell Hollow Access Area and Recreational Cottages
Low Density Recreation (25-MR-L-1)
Corps of Engineers
Calhoun County, IL
River Mile 242 L
Acres: 11.14
Plate 25-1

General Description: The Cockrell Hollow Access Area is located on the left bank and is managed for public and private access purposes and offers recreational opportunities for wildlife viewing, hunting and shoreline fishing. This area includes the 2.64 acre Cockrell Hollow Recreational Cottages Subdivision, platted with six lots and adjacent shoreline. Three lots, totaling .64 acres, are excluded from public access under private recreation lease to cottage owners. Three lots, totaling 2.0 acres, are undeveloped and provide public access to the Mississippi River shorelines. No public access facilities are developed at this time. Eight and one-half acres are leased to the Village of Batchtown under a long-term park and recreation lease primarily for hunting and commercial fishing to the river and the Batchtown WMA. The chute leading to the river is silting in and access is not usable during tilt/low pool. Facilities include a 10 car and trailer crushed stone parking lot, boat tie-downs during waterfowl season only, one crushed stone single-lane boat ramp, one security light and seasonal portable toilets. A trilateration station for monitoring Lock and Dam 25 structural movement is located along the shoreline. For safety purposes, the area is closed to hunting and trapping.

<u>Proposed Development</u>: Lease area rehabilitation includes construction of three new gravel parking areas and a gravel roadway, seal coat surfacing of the access road, construction of a new concrete boat ramp, improvement to security lighting, removal of silt from the harbor through

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dredging, construction of silt deflection berms, construction of shoreline protection, the installation of native trees and construction of uniform boat tie-downs.

The Village of Batchtown, through a boat access grant from IDNR, will be performing rehabilitation to the lease area.

The tri-lateration station will be rehabilitated by the Corps.

<u>Future Development</u>: Additional minimum facility developments for public health and safety, and project operations will be evaluated.

#### **UNIT 2 Middle Pool 25**

Batchtown Refuge
Wildlife Management (25-MR-W-2)
U.S. Fish and Wildlife Service
Mark Twain Refuge Complex Batchtown Division
Calhoun County, IL
River Mile 246.0 - 252.0 L
Acres: 2,403 (before proposed changes)
Plate 25-1

General Description: The Batchtown Refuge is composed of timbered islands, narrow sloughs and backwaters, managed moist soil units and small agriculture areas. The area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement. Most of the unit is subject to annual flooding due to ground surface elevations from 430 to 437 NGVD. The area provides a strategically located waterfowl sanctuary amidst other Pool 25 units that are heavily used for waterfowl hunting. The Refuge is open to fishing, wildlife observation, photography, and conservation education purposes each year from December 16 through October 14. The area is closed to all public uses from October 15 through December 15 to preserve the sanctuary benefits to migratory birds during fall migration and hunting season. The Gilead Access, Prairie Pond Access, and Mississippi River Access are included within this area. The area is currently separated into four management units: Upper Pool, Middle Pool, Lower Pool, and Turner Island.

Prior to navigation system impoundment of the Middle Pool, existing floodplain depressions were known as Prairie Pond, Black Lake, Watson Lake and Metz Lake. Since the impoundment, this agriculturally developed area was subject to water level fluctuations resulting from Pool 25 water level management and would either flood or be too low depending on pool levels. In 1963, the USFWS constructed a low levee around the unit that was usually overtopped annually, but held water above the river during periods of low pool levels. At the time of construction, the unit's maximum water surface area was about 547 acres. Most of this area was 2 inches or less in depth except for the above mentioned ponds that created deeper water and year-round fisheries habitat. A reversible pumping station was installed that permits inflow or outflow at the rate of 20,000 GPM, enabling water management that cannot be accomplished with gravity flow. Sedimentation has been the largest management problem associated with the unit and has resulted in the loss of water depths and encroachment of woody vegetation.

At the end of Turner Road, the USFWS has maintained a public river access boat ramp for decades on the left bank known as the Mississippi River Access. The area includes a ten foot wide concrete boat ramp, a 5,600 square foot gravel parking lot, and a 7,400' long gravel entrance road (10 wide). The ramp is open to the public year round, except during floods. Additional use restrictions apply to the access road during the peak fall migration (Oct 15 - Dec 15). Previously, the road and ramp were closed each year from October 15 to December 15. Due to the loss of other boat ramps in the area from sedimentation and periodic pool level fluctuations, river access was quite limited. During the fall seasons of 1997 and 1998, the refuge permitted the access road and boat ramp to remain open the entire year. The effect on the sanctuary and habitat utilization within the Lower and Middle Pools was deemed negligible by the refuge staff. The area is to be transferred to the IDNR for operation and maintenance and to serve as a year 'round access area to the Batchtown Wildlife Management Area. The Prairie Pond Access Area and other

accesses into the Lower, Middle and Upper Pool units remain closed during the fall season.

The Upper Pool unit is a series of small islands and associated backwaters north of the Middle Pool and south of the Gilead area. Since this unit is open to the river, water levels in the Upper Pool are controlled by navigation pool regulation. At pool level 434, 417 acres are inundated; at elevation 432, approximately 266 acres are covered with water. The loss of structural diversity is a habitat problem associated with this unit, as well as many other backwater areas within the navigation pools. Erosion has reduced the size of some islands, while sedimentation has reduced the depth of some sloughs, resulting in less variation of habitat structure within the unit.

The Lower Pool area is located between the Middle Pool unit and the IDNR-managed Batchtown WMA The area is partially protected on the north by the Turner Road levee but is open to the river on the south end along with the state-managed unit. During high water events the river flows into the Middle Pool over spillways located along the levee and passes into the Lower Pool unit through a spillway in the Turner Road levee. This scouring action has maintained several deeper holes in the sloughs within the Lower Pool. The majority of the unit contains bottomland forest habitat. The unit also contains two agriculture areas, which are not protected from flooding by levees, but are high enough to have remained viable over the years for either high-risk farming or native vegetation restoration. Turner Creek passes through the farm units at the east end of the Lower Pool unit. The sedimentation rates associated with this tributary are very high. This problem has been identified along with a sediment trap prescription in the Batchtown EMP-HREP project, which may require the use of the adjacent agricultural lands in the unit.

The Turner Island unit was identified on the General Plan maps as a USFWS area. However, the USFWS has never conducted management activities on the unit. The area has been designated for the IDNR managed hunting blind allocation since the program started. Habitat improvements have been made by the IDNR over the years, and more are planned through the construction of the Batchtown EMP-HREP. Turner Island will be managed by the IDNR.

<u>Proposed Development:</u> It is proposed to transfer Lower Pool, Turner Island, and north portion of Reds Landing Unit, currently designated USFWS, and the Mississippi River Access to the IDNR. This transfer is proposed subject to the following provisions: the Lower Pool area remains a state managed waterfowl sanctuary; the boundary line between the state and federally managed areas be the center line of the Turner Road; and primary maintenance responsibility for the road from the government boundary to its terminus be with the IDNR, with assistance from the USFWS and/or Corps if flood events or other circumstances require a shared response.

It is also proposed to transfer the former Gilead Hunt Club lease area to the USFWS. The Gilead Hunt Club lease was located on the left bank at RM 250.5.

Due to the proposed boundary adjustments contained in this plan and Environmental Management Program project features, the unit, which has previously been referred to as the Middle Pool, will hereafter be called the Prairie Pond Impoundment. The Refuge unit north of the Prairie Pond Impoundment has been referred to as the Upper Pool, but will now be called the Maple Island unit.

Development of the unit will be consistent with the provisions of the EMP project, such as dredging for fisheries benefits, improved water control

capability, and upland treatments for sedimentation. Small crop fields that lack land-based access except across private property, will be converted to forested wetlands.

The Gilead Access Area as described below will be managed as part of the Batchtown Refuge.

**<u>Future Development</u>**: No future development is planned.

The **Gilead Access Area**, the former Raphael Behren commercial concession, is located adjacent to the Village of Gilead, Illinois and is within the Batchtown Refuge Maple Island Unit having been interim managed and maintained by the Corps of Engineers. The area is managed for public access purposes for fishing, hunting and wildlife observation. The access area is closed from 15 October through 15 December annually for purpose of providing wildlife sanctuary during waterfowl hunting season.

<u>Proposed Development:</u> A public road easement for this access will be requested through the Real Estate Division.

Future Development: No future development is planned.

The **Prairie Pond Access Area** is within the Batchtown Refuge - Prairie Pond Impoundment. A 10-foot wide gravel boat ramp and 5,000 square foot gravel parking lot provide access to Prairie Pond and the Middle Pool areas of the Batchtown Division. The area is managed for public access purposes for fishing, hunting and wildlife observation. The access area is closed from 15 October through 15 December annually for the purpose of providing wildlife sanctuary during waterfowl hunting season.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

#### **UNIT 3 Upper Pool 25**

Reds Landing Wildlife Management Area Wildlife Management (25-MR-W-3) Illinois Department of Natural Resources Calhoun County, IL River Mile 253- 256.5 L Acres: 1,460 Plate 25-2

General Description: The Reds Landing Wildlife Management Area is managed for fish and wildlife enhancement purposes under a General Plan and Cooperative Agreement and offers recreational opportunities including boating, fishing, hunting and wildlife observation. The site consists of small backwater lakes and sloughs, agricultural fields and bottomland forest. The bottomland forest at this site is more diverse and indicative of the forest composition prior to impoundment. There is still a good mix of mast producing hardwoods such as pin oak, swamp white oak, hickory and pecan. The overall productivity of this site is evident from the presence of a large Heron rookery and active Bald Eagle nest. A partnering effort with the Corps, Ducks Unlimited, Migratory Waterfowl Hunters Inc., USFWS-North American Wetlands Conservation Fund, IDNR-Heavy Equipment Crew and Partners for Wetlands, funded the construction of facilities to develop a flooded green tree area. The area provides water control for the north end of the site, which had been lost as viable wetland habitat due to siltation. The area is designated for walk-in waterfowl hunting. Historically, much of the north portion of the Reds Landing Wildlife Management Area was part of the Mark Twain Refuge Complex. The USFWS has now zoned this area as a huntable refuge, which allows public hunting managed by the IDNR.

Existing facilities include water control structures (both stop log and screw gate type), earthen dikes, two 22,000 GPM pumps (one for flooding and one for discharge), a portable fuel tank and power plant for pump support.

<u>Proposed Development</u>: Proposed actions include the excavation of some shallow ditches to connect some of the smaller sloughs in the flooded timber area. These ditches will improve water control and encourage the development of moist soil plants. In addition, the de-watering capability will allow the substrate to become firm, facilitating succession control against woody encroachment.

Reds Landing Access will be removed from the park and recreation lease and included within the Reds Landing WMA

Future Development: No future development is planned.

The **Reds Landing Access Area** offers boat access to both the Mississippi River and interior sloughs. The area is popular for fishing, hunting and wildlife observation as well. This also serves as the parking area for the walk-in waterfowl hunting area. Existing facilities include an access road and parking area for 40 cars, another gravel parking area for 30 cars, a two-lane concrete boat ramp for access to the river, a single-lane, concrete boat ramp for access to Sand Slough, a concrete block vault toilet and water control structures.

<u>Proposed Development</u>: The Reds Landing Access Area has been historically managed by IDNR under a long-term park and recreation lease. This area will be removed from the lease and the area and facilities will be included within the Reds Landing WMA

Future Development: No future development is planned.

# Rip Rap Landing/Dog Island Wildlife Management Area Wildlife Management (25-MR-W-4) Illinois Department of Natural Resources Calhoun County, IL River Mile 260.8L-262.5L Acres: 283 Plate 25-3

<u>General Description</u>: Dog Island is located at RM 262, at the mouth of the old Sny Creek and its 283 acres are owned by the Corps. It is managed by the IDNR under a General Plan and Cooperative Agreement for fish and wildlife enhancement purposes as part of their Rip Rap Landing area. The island is not actively managed at this time; however, it is available for public hunting. The island is entirely forested; the forest consists primarily of silver maple, cottonwood and willow.

Rip Rap Landing is a 1,232-acre IDNR management unit consisting of 203 acres of water; 80 acres of agricultural fields; 90 acres of open land (retired agricultural fields) and 859 acres of bottomland forest. The water acreage includes the 125-acre Waverly Lake, four smaller ponds of various sizes and old side channels with forested banks. The site offers boat access to both the upper reaches of Pool 25 and to Waverly Lake and is also a popular boat access to the Mississippi River for hunting, fishing and recreational boating.

The bottomland forest is more representative of the diverse bottomland hardwood forests, which were present prior to impoundment by the navigation dams. Due to the quality of this forest community, the northwest portion of the site is designated a State of Illinois Natural Area.

Management activities include planting of row crops and small grain crops through a lease/tenant program. The natural hydrologic cycle reduces the various water bodies throughout the summer, allowing moist soil vegetation to establish. In the fall, a permanently installed pump station at the river is utilized to refill the interior lakes and ponds, creating ideal wetland habitats.

Existing facilities at Rip-Rap Landing WMA include two concrete and one gravel boat ramp, two gravel parking lots, a one-way 10,000 GPM pump station with portable power unit and fuel tank, several gated tube water control structures and two stop-log over flow structures, gravel access roads, and three 600 GPM wells with electric pumps and water transfer ditches.

<u>Proposed Development:</u> The 1993 flood deposited large quantities of sand on privately owned land between IDNR Lands and the Corps-owned Dog Island area. The IDNR is negotiating with the landowner to acquire this parcel and thus connect the Rip-Rap WMA lands with the Dog Island WMA lands as one continuous unit.

<u>Future Development</u>: Pending successful land acquisition negotiations, the IDNR will develop a management plan that addresses management of the entire area.

# **POOL 25 Compartment 9**

#### Pool 25 Missouri Management Area

**UNIT 1 Lower Pool 25** 

Lock and Dam 25 Area
Operations (25-O-1)
Corps of Engineers
Lincoln County, MO/Calhoun County, IL
River Mile 241.4
Acres: 159
Plate 25-1, S-9

<u>General Description</u>: The **Lock and Dam 25 Area** includes the lock and dam structure, storage and maintenance areas, project office, overflow spillway, visitor overlook and the Winfield Access.

The Lock and Dam 25 Area and Winfield Access provide excellent viewing of the American bald eagle, great blue heron, migrating and overwintering waterfowl, migrating American white pelican and other Watchable Wildlife. This area is adjacent to a Nature Conservancy Eagle Sanctuary. Through partnering with the Nature Conservancy, these Corps' areas are being maintained as eagle sanctuaries and Watchable Wildlife areas. The area is closed to hunting.

The lock and dam has been going through major rehabilitation since 1994 that includes replacement of the Sandy Slough access bridge, the lock gates, and the lock culvert valves; rehabilitation of the lock electrical system and operating equipment, the Illinois abutment, and the auxiliary lock closure area; and installation of a new lock dewatering system. The storage and maintenance buildings are being consolidated into one new storage building for efficiency of operations.

The Winfield Access Area is located adjacent to Lock and Dam 25, and includes Bradley Island and Sandy Slough. Public access to the area is from State Highway N and County Road 957. The area is managed for public access purposes and offers recreational opportunities for picnicking, bank fishing, walking, sightseeing and bird watching. An eagle viewing tower, constructed in cooperation with Nature Conservancy, Ameren-UE and the Corps, offers viewing of bald eagles. The overlook adjacent to the lock and dam administration building is used for educational programming and close-up viewing of the locking through of tows and barges.

Winfield Access facilities include a security gate, a pedestrian walkway access along the entrance road bridge to the parking lot, two overlooks for educational and interpretive activities, a nature trail, twelve picnic sites, a waterborne comfort station, a chip and seal and crushed stone parking lot, two benches, a vehicular bridge, an accessible walkway and an information board.

**Proposed Development:** Maintain the lower picnic area as eagle sanctuary during November through March. Upgrade the nature trail to improve visitor safety and make ADA complaint. Asphalt overlay the chip and seal roadway and parking lot. Replace the comfort station with an ADA compliant comfort station and partner-supported picnic shelter. Develop a Watchable Wildlife plan to include signage of sites and a trail along Sandy Slough.

An interpretive prospectus and a design memorandum will be prepared to obtain approval to rehabilitate the former maintenance building into a Class C Visitor Center.

<u>Future Development</u>: Future developments include a plan to obtain an easement from Lincoln County for operation and maintenance of County Road 957 from Hwy N to the Corps boundary to meet operational needs of the area

Lock 25 Spur Dike Area
Operations (25-O-2)
Corps of Engineers
Lincoln County, MO/Calhoun County, IL
River Mile 241.6 246 R
Acres: 392
Plate 25-1

General Description: The Lock 25 Spur Dike Area is located adjacent to Lock and Dam 25, which starts at RM 241.5 and continues five miles upstream from the lock on the Missouri shore. The spur dike maintains the navigation pool and provides flood protection along with the Cap Au Gris secondary levee located behind it. The spur dike consists of compacted earthen fill with riverside revetment protection. The crest of the spur dike embankment is at 444.0 NGVD. Trilateration stations are located around the lock and dam to monitor the movement of the structure. A crushed stone service road on the levee crown provides non-vehicular public access and offers an excellent view of the river. The area is used for walking, running, horseback riding, eagle viewing, bank fishing and biking. On the riverside of the spur dike from RM 245.3 to RM 245.8, there are eight privately owned boat docks. A Shoreline Management Plan, as required by 36 CFR Part 327.30, Shoreline Management on Civil Works Projects has not been developed for those portions of the Mississippi and Illinois Rivers under the jurisdiction of the St. Louis District. An interim district policy allows that all existing facilities will be grandfathered until a Shoreline Management Plan has been developed and approved. These boat docks are allowed through Special Use Permits, which are evaluated every five years for compliance. In the absence of a Shoreline Management Plan for the Rivers Project Public Lands, this private exclusive use is allowed to continue.

Existing facilities include one trilateration station, four access control barriers, five miles of crushed stone service road, eight private boat docks and five miles of revetment on the riverside slope of the spur dike.

**Proposed Development:** The spur dike service access will be designated as a bike and hiking trail with appropriate signage to allow for safe bicycle and pedestrian access. The private boat docks will be removed as they become vacant, in accordance with the interim Shoreline Management Policy. The wooden trilateration station structure will be replaced with a galvanized metal structure to allow for wildlife viewing.

Wood duck and mallard nesting structures will be placed along the landside of the levee. Coordination is on-going with the Nature Conservancy and the MDC to develop and maintain elevated viewing and a Watchable Wildlife program. The MDC has proposed enhancement for the Sandy Chute area to improve fish habitat to include restoring flow through the chute by constructing a water-control structure through the spur dike at the upstream end at approximately RM 245.0, and dredging the lower reaches of the chute. A tailwater fishery effect would be created in the vicinity of the upstream water structure.

<u>Future Development</u>: Pursue Partnerships with the Nature Conservancy and MDC and other agency and private sector partners to provide a quality Watchable Wildlife area and bike trail.

Foley Access Area and Recreational Cottages
Low Density Recreation (25-MR-L-2)
Corps of Engineers
Lincoln County, MO
River Mile 245.0 R
Acres: 28
Plate 25-1

General Description: The Foley Access Area is located on the riverside of the Lock and Dam 25 Spur Dike. The area is managed for public and private access purposes and provides recreational opportunities for fishing, hunting, boating, sightseeing, bird watching and bank fishing. Facilities include a crushed stone parking lot and a single lane boat ramp. This boat ramp is only accessible by small boats (16-foot or less) and is subject to seasonal flooding. This area is closed to hunting due to public safety concerns.

A submerged navigation structure is across the opening of the chute at the downstream end of the access. This structure prevents the siltation in the chute from being deposited in the main channel. The structure is causing reduced flow, and sedimentation problems within the chute that are detrimental to the fisheries and boat access. This chronic siltation problem restricts boat access to the river during low pool elevations.

The **Foley Recreational Cottages Subdivision** is platted with two lots. One lot, 0.13 acres, is excluded from public access under private recreation lease to the cottage owner. One lot, 0.9 acres, is undeveloped and provides walk-in public access. No public access facilities are developed at this area.

**Proposed Development:** Relocation of this boat ramp and parking lot is proposed to allow for year-round use. This would reduce annual operation maintenance costs associated with silt removal from the boat ramp, channel and parking lot. Due to the increased use of the Lock 25 spur dike for walking, bicycling, horseback riding, hunting and fishing it is proposed to build a 20-car gravel surface parking lot landside of the spur dike adjacent to the entrance road for the area.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

#### **UNIT 2 Middle Pool 25**

Stag Islands Group Conservation Area Wildlife Management (25-MR-W-5) Missouri Department of Conservation Lincoln County, MO River Miles 245.7 - 249.5R Acres: 295 Plate 25-1

General Description: This conservation area is located in Lincoln County, Missouri in the lower quarter of Pool 25, between RM 249.5 and RM 247.7. The 486-acre project area consists of a complex of six islands and surrounding off-channel aquatic habitats located on the inside bend of the river managed under a General Plan and Cooperative Agreement. The six islands (Ross, Stag, Little Stag, Hausgen, Jim Crow, Keeton) are mainly forested and lie low with respect to the river. Aquatic areas include main channel border, side channel, chute, main channel, and island slough habitats.

Sedimentation has eliminated or significantly degraded productive off-channel backwater habitats in Pool 25, that are valuable spawning, rearing, and overwintering areas for riverine fish. Suitable slackwater habitat for migratory waterfowl, especially diving ducks, is also in short supply. Aquatic habitats within the study area have little structure. Sediment plugs that have formed over time in the opening of two sloughs on Stag Island prevent optimal moist soil plant production in these areas rendering the Pool 25 water level manipulations for habitat improvement (EPM) ineffective in this area.

No public access facilities or infrastructure are developed in this area, but access is available at the Norton Woods and Hurricane accesses.

A UMRS-EMP-HREP project was completed in 1999. The project features a 1,300-foot long emergent stone dike extending from the Missouri shoreline to the upstream tip of Ross and Stag Islands crossing the upper end of the side channel and upper chute. It has a crown elevation of 438 feet NGVD, or four feet above normal pool (434 feet NGVD.) and creates about 127 acres of slackwater habitat from the 99-acre side channel and 28-acre upper chute. The dike is expected to reduce sediment and turbidity, improve water clarity, and allow the accumulation of woody debris as well as establishment of some submergent aquatic vegetation in the protected area. This slackwater area is useful as spawning, rearing, and overwintering habitat for many riverine fishes, and as resting and feeding habitat for migrating diving ducks. The dike is designed to retard the accumulation of sediments in sloughs on Stag Island, and delay the encroachment of woody vegetation in these productive units.

**Proposed Development:** Deepen two backwater slough areas on Stag Island for fisheries habitat. Create deep water habitat on both sides of Little Stag Island by dredging and filling the existing sandbar developing adjacent to Little Stag. Extend the existing sandbar to the upstream tip of Hausgen Island to create a mosaic of slackwater habitat for fisheries and waterfowl and maintain a diverse wetland complex that would otherwise convert to terrestrial forest cover.

**<u>Future Development:</u>** A long-term goal for area is to convert this island complex to a waterfowl refuge.

#### Hurricane Access Area Low Density Recreation (25-MR-L-3) Corps of Engineers Lincoln County, MO River Miles 251.0/251.5 R Acres: 3

#### **Plate 25-1**

<u>General Description</u>: The Hurricane Access Area is located at RM 251.5, riverside of Elsberry Drainage District Levee. The **R&J Landing Access** is located at RM 251.0, riverside of the Elsberry Drainage District Levee and is adjacent to the B. K. Leach Wildlife Management Area. R&J Landing was a commercial concession recreational lease with a campground, boat ramp, parking area, small store and comfort station. The lease was relinquished and the area was turned back to the Corps in November 1997.

<u>Proposed Development:</u> Hurricane Access will be relocated to R&J Landing to provide a safer river access. The area will be named Hurricane Access. For public safety, the area is closed to hunting.

The area includes a single lane concrete boat ramp, a crushed stone parking lot and a concrete bridge over the slough. The area is not flood protected and is frequently flooded during all but minor flood events. The area will be closed from 1 October through the end of waterfowl season for refuge purposes in cooperation with the MDC B. K. Leach WMA

It is proposed that the one-lane boat ramp be replaced and the parking area be enlarged to accommodate larger boats. Shoreline revetment will be placed around the boat ramp to protect the integrity of the shoreline. Five primitive campsites will be maintained with a grill, table and designated area.

**<u>Future Development</u>**: No future development is planned.

Sterling Harbor Area
Vegetative Management (25-MR-V-1)
Corps of Engineers
Lincoln County, MO
River Mile 250.5
Acres: 3
Plate 25-1

<u>General Description</u>: The **Sterling Harbor Area** is located at RM 250.5, riverside of the Elsberry Drainage District Levee and adjacent to the MDC B.K. Leach Wildlife Management Area. This area was a commercial concession recreational lease that was relinquished to the Corps in 1994. The area is not flood protected and is frequently flooded; however, the shoreline is revetted. Management of the area will be consistent with the adjacent MDC's B.K. Leach Wildlife Management Area. The area is open to hunting in cooperation with the MDC. The area is being minimally maintained until a proposed access study is completed.

**<u>Proposed Development</u>**: The completion of forest inventories is proposed.

**Future Development:** No future development is planned.

#### **UNIT 3 Upper Pool 25**

Norton Woods Conservation Area
(Pool 25 Islands Group – Sterling, Westport, Mosier)
Wildlife Management (25-MR-W-6)
Missouri Department of Conservation
Lincoln County, MO
River Miles 251.0- 261.0 R
Acres: 2,132
Plates 25-2. 25-1

<u>General Description</u>: The Pool 25 Islands Conservation Area is located on the right bank of the Mississippi River. Sterling, Kickapoo, Eagle, Schwanigan, Four-acre, Mosier and Westport Islands are included within this management area complex. The area is managed for fish and wildlife enhancement and contains a diversity of forest, backwater slough, and interior open wetland habitats.

Westport Island is approximately 1,133 acres in size and is located near the right bank at RM 256. This large island contains an extensive system of interior backwaters and diverse lowland habitats with excellent potential for waterfowl management enhancements. Sterling, Kickapoo, Eagle, Mosier and Schwanigan Islands are primarily forested with some small open slough areas rapidly succeeding to forest due to sedimentation. No active management or infrastructure currently exists on these islands ..

Access for fishing and hunting is provided by the Norton Woods access area

<u>Proposed Development</u>: Schwanigan, Eagle, and Sterling Islands will be allowed to continue their development through natural succession. The Norton Woods shoreline forested areas will also continue to be allowed to develop through natural succession. The backwater slough areas will be managed for fish spawning and nursery habitat due to its connection to the river and midpoint location on the Navigation Pool.

Under the authority of the UMRS-EMP-HREP it is proposed to put a rock closure structure between the upstream tip of Schwanigan Island across the side channel and connect with the lower third of Westport Island. This will provide a deep backwater habitat for over wintering fish and slackwater habitat for resting, feeding, and roosting wetland migratory birds. In addition, the EMP project would improve the natural diversity of Westport and Kickapoo Island by enhancing wetlands, restoring a more diverse forest community and reconnecting some sloughs to the river. The project would use the natural variations in the river flow to provide wetland benefits within the Westport Island Natural Area. On the 425 acre Mosier Island, an estimated 70-80 acres of chutes, sloughs and wetlands would be rehabilitated island by constructing a low profile levee and flow control structures.

The lower third of Westport Island is a designated Natural Area by the MDC and is zoned as an Environmental Sensitive Area. It is proposed to construct a low-level levee and gated water control structure(s) across the slough complex just upstream from the natural area on Westport Island. Another water control structure and levee will be constructed on the upper end of the Island across the Island slough complex. These structures will be utilized to manage the Islands wetlands for wildlife. The project would restore wetland habitat on some 270 acres of this 625 acre island. The improvement would consist of three low profile levees with drains and stop-log structures. A five acre portion of the chute/slough area would be excavated to a ten foot depth to maintain a fishery

resource throughout the year. Portable (barge mounted) pumping facilities would control interior water levels and would be moved to serve the other islands. Wells will be installed to enhance water control. All existing former Agricultural Leases will be reforested to hard-mast-producing bottomland hardwoods.

On Kickapoo Island, it is proposed to manage the interior open wetlands using gated water control structures and replant former agricultural lease to hard-mast-producing tree species. A well will be installed to enhance water control.

The boat ramp and vault toilets will be rehabilitated.

<u>Future Development</u>: Maintain management of proposed infrastructure and habitat on the Schwanigan Chute through dredging as required to maintain a minimum 8-foot depth in selected locations for enhanced fisheries habitat.

Norton Woods Access Area Recreation (25-R-1) Missouri Department of Conservation Lincoln County, MO River Mile 252.0 R Acres: 19 Plate 25-2

<u>General Description</u>: The **Norton Woods Access Area** is used for hunting, fishing, boating, camping and wildlife observation.

Existing facilities include a crushed stone entrance road from M Highway, a crushed stone parking lot, a crushed stone two-lane ramp and two vault comfort stations.

<u>Proposed Development</u>: Proposed development by MDC will include upgrading the existing boat ramp and resurfacing the road with asphalt and parking area with concrete. Ramp improvements will include a turnaround and a restructured two-lane concrete ramp. Car/trailer parking will be angled pull-through stalls. Primitive camping, with 13 gravel pads, will be located near the road and parking area. Support facilities will include replacement of the vault toilets. Camping facilities will be low-cost and maintenance free and will provide multi-use of the access area.

<u>Future Development</u>: Pave road from M Highway to site. Elevate parking lot and access road one foot to improve accessibility.

Hausgen Access Area and Recreational Cottages
Low Density Recreation (25-MR-L-4)
Corps of Engineers
Lincoln County, MO
River Mile 252.5 R
Acres: 10
Plate 25-1

**General Description:** The **Hausgen Access Area** is located adjacent to the Norton Woods Access. The area is managed for public and private access and includes the **Hausgen Recreational Cottages Subdivision**, platted with six lots, and adjacent shorelines.. Four lots, totaling 1.28 acres, are excluded from public access under private recreation lease to cottage owners. Two lots, totaling 8.72 acres, are undeveloped and provide public access to the river. No public access facilities are

developed at this time. For safety purposes, the area is closed to hunting and trapping.

**Proposed Development:** No proposed development is planned.

**Future Development:** Additional minimum facility developments will be evaluated for public health and safety, and project operations. A minimum facility landing along the western shoreline would enhance public safety and operations.

L-40 Access Area and Recreational Cottages
Low Density Recreation (25-MR-L-5)
Corps of Engineers
Lincoln County, MO
River Mile 251.5 R
Acres: 10
Plate 25-2

<u>General Description</u>: The **L-40 Access Area** is located adjacent to Norton Woods Access Area. The area is managed for public and private access purposes and includes the **L-40 Recreational Cottages Subdivision**, platted with 13 lots, and adjacent shorelines. No public access facilities are developed at this time. Two lots, totaling 0.68 acre, are excluded from public access under private recreation lease to cottage owners. Eleven lots, totaling 9.32 acres, are undeveloped and provide public access to the river.

**<u>Proposed Development:</u>** A minimum facility turnaround on the public road is proposed for public safety.

<u>Future Development</u>: Additional minimum facility developments, i.e., shoreline landing will be evaluated for public health and safety, and project operations.

### **POOL 24 Compartment 10**

Pool 24 Illinois Management Area

UNIT 1 (IL) Lower Pool 24

Lower Pool Illinois Lands / Islands Vegetative Management (24-MR-V-1) Corps of Engineers Pike County, IL River Miles 272.8 – 283.3L Acres: 893 Plates 24-2, 24-1

<u>General Description</u>: Lands forming a narrow strip on the left bank from the dam to RM 283.3 and Mosier, Cash, Crider and Gosline Islands are managed for protection and development of forest and vegetative cover as well as wetland restoration. The only exception is shoreline land between RM 278 and RM 280.5 that will be managed by USFWS. The Sny Levee and Drainage District manages the federal levee that is constructed on these lands extending parallel to the river which includes about three miles of revetted river shoreline. The Corps will provide basic stewardship services on the remaining lands.

<u>Proposed Development</u>: The islands and shoreline lands described above were historically managed by USFWS. They will be removed from the General Plan and Cooperative Agreement lands and managed by the Corps.

Future Development: No future development is planned.

Lower Pool Illinois Lands/Islands Wildlife Management (24-MR-W-1) U.S. Fish and Wildlife Service Pike County, IL River Miles 277.8 – 280.5 L Acres: 98 Plate 24-2, 24-1

<u>General Description</u>: These lands on the left bank between RM 278 and 280.5 are managed for protection and development of forest and vegetative cover and for wetland restoration. These lands provide a public lands buffers for the adjacent Delair Division of the Mark Twain Refuge Complex and are included in the General Plan and Cooperative Agreement. The Sny Levee and Drainage District manages the federal levee that is constructed on these lands extending parallel to the river.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

Gosline Access Area and FI-10 Recreational Cottages
Low Density Recreation (24-MR-L-1)
Corps of Engineers
Pike County, IL
River Miles 280.0 – 280.5
Acres:4
Plate 24-2

<u>General Description</u>: The Gosline Access Area and FI-10 recreational cottages are located on the riverside of the Sny Federal Levee and adjacent to the USFWS Mark Twain Refuge Complex, Delair Division.

This area is managed for public access and provides recreational opportunities for boating, fishing, camping, sightseeing. The IDNR manages waterfowl hunting blinds in backwaters adjacent to the access. Facilities include a crushed stone parking lot with single lane boat ramp and four primitive camping sites. The siltation from seasonal flooding is causing decreased access to the river.

The **FI-10** Recreational Cottage Lease is located adjacent to the Delair Division of the Mark Twain Refuge Complex and the Gosline Access Area. The area is managed for public and private access purposes and includes the 2.0-acre **FI-10** Recreation Cottage lot. No public access is developed at this time. One lot, 2.0 acres, is excluded from public access under private recreation lease to the cottage owner. For public safety, the area is closed to hunting and trapping.

<u>Proposed Development:</u> Gosline developments include widening of the parking lot/boat ramp, installation of designated primitive camping and refuse receptacles to improve public health and safety conditions. At FI-10, a minimum facility turnaround on the access road is proposed for public safety. The boat ramp channel to the river will be dredged.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations at FI-10.

#### **UNIT 2 Upper Pool 24**

Two Rivers Recreation Area Recreation (24-R-2) Corps of Engineers Pike County, IL River Mile 283.3 Acres: 244

Plate 24-2. S-11

<u>General Description</u>: The Two Rivers Recreation Area is located on the Illinois shore, directly across the river from Louisiana, Missouri and is managed by the Corps for public access purposes. The area is used for fishing, boating, sightseeing, bird watching, fishing tournaments, swimming, and general day use activities at the marina and restaurant area. The area also provides excellent viewing of the over-wintering bald eagles. Portions of the area are not flood protected and are frequently flooded during all but minor flood events. For public safety, the area is closed to hunting and trapping.

The 1.5 acre Two Rivers South Access facilities include a crushed stone parking lot and entrance road, concrete boat ramp, and courtesy dock. The boat channel to the river is silting-in, reducing the width of the navigable channel from the river to the boat ramp to a narrow single lane. The past use of this area has been for small draft boats while the current average recreational boat ranges from 20 feet to greater than 40 feet in length. The boat ramp and parking area are inadequate for the current demand of recreational boating use.

**TDJ, Inc.** manages the 233 acre **Two Rivers Marina** under a Corps commercial concession lease. Facilities include wet slips, dry storage area, convenience store/administration building, fuel dock, restroom and shower facility, boat service and repair facility, swimming pool, picnic shelter, service boat ramp, access roadways, parking lots, hiking/walking trail, and full hookup campsites. The marina facilities sit on approximately 10.0 acres and the remainder of the area is forested.

Lighthouse Inn, Incorporated, manages the Lighthouse Restaurant located on one acre. The area is managed for commercial concession purposes under a long-term commercial concession lease. Facilities include restaurant, bar, asphalt parking lot, and handicap accessible ramp and outdoor patio.

**<u>Proposed Development</u>**: Rehabilitate and pave the boat ramp to accommodate larger boats. This will include silt removal, placement of shoreline protection, and repositioning the courtesy dock. Also, pave the upper and lower portions of the parking lot and dredge the boat channel from the boat ramp to the river.

The Two Rivers Marina lessee will continue to perform general operation and maintenance on docks, buildings, walkways and vegetation.

<u>Future Development:</u> Monitor the recreational usage at Two Rivers South Access to evaluate possible expansion of parking lot.

Upper Pool Illinois Lands/Islands Area Vegetative Management (24-MR-V-2) Corps of Engineers Pike County, IL River Miles 283.5 – 296.8 L Acres: 1716 Plate 24-2

General Description: These lands include Illinois shoreline lands between RM 283.5 and 296.8 and associated Mississippi River islands: Cottonwood, Willow and Willow Bar. Shoreline lands vary from 200 feet to 2000 feet wide, forming a strip along the Illinois shoreline and consist of bottomland hardwoods and backwater sloughs with small ponds dispersed throughout the area. Due to limited public roadways only a portion of these lands are accessible by vehicle while other lands are accessible from the river or walk-in access. This area is unique due to its diversity of habitats and natural vegetation characteristics that are beneficial to wildlife.

Several public access areas and recreational cottage sites are dispersed throughout this area. Area is open to hunting and trapping in cooperation with the IDNR.

**Proposed Development:** No proposed development is planned.

**Future Development:** No future development is planned.

Two Rivers North Access Area Low Density Recreation (24-MR-L-2) Corps of Engineers Pike County, IL River Mile 284.0 Acres: 5 Plate 24-2

<u>General Description</u>: The Two Rivers North Access Area (formerly known as Pike Station under IDNR management) is managed for public access purposes and is popular for fishing, boating, sightseeing, hiking, hunting and primitive camping. Facilities include a concrete two-lane boat ramp, chip and seal parking lot, chip and seal entrance road, sandy shoreline and native grasses. The boat ramp has deteriorated and is only usable by small fishing boats. The area is not flood protected and is frequently flooded during all but minor flood events. For public safety, the area is closed to hunting and trapping. This relinquished area will be minimally maintained until a project-wide access study is completed

<u>Proposed Development:</u> The shoreline will be maintained to protect the parking lot and for use as a day use area with picnic tables and grills. A challenge cost-share partnership will be pursued with the township to improve access to the area.

**Future Development:** No future development is planned.

Willow North and South Access Area Low Density Recreation (24-MR-L-3) Corps of Engineers Pike County, IL Willow South - River Mile 287.8 L Willow North - River Mile 288.3 L Acres: 8 Plate 24-2

General Description: The Willow South Access Area and Willow North Access Area, located just downstream of Willow Island, are managed for public access purposes and provides recreational opportunities for fishing, boating, and sightseeing. The Willow South access area includes a crushed stone entrance road, crushed stone parking lot and concrete boat ramp. The Willow North access area includes a crushed stone entrance road, crushed stone parking lot and crushed stone boat ramp. For public safety, the area is closed to hunting and trapping.

The boat ramps at both locations have deteriorated and are only usable during normal or above normal river conditions. The channel from the river to the Willow North boat ramp is silting in and does not allow boat access to the river.

**Proposed Development:** Public use patterns in the Turkey Lake Access indicate that there is a demand for improved river access. It is proposed to close the Willow South Access area and relocate the concrete boat ramp and crushed stone parking lot to the Turkey Lake Access area to provide public access to the river. The Willow South Access facilities will be removed and the area will be reforested and reclassified as Vegetative Management. It is proposed to replace the gravel boat ramp at Willow North with a concrete boat ramp and increase the parking lot. Periodic dredging of the channel from the boat ramp to the river will allow for access during all pool elevations.

<u>Future Development</u>: This area will be included in an access study to evaluate future public use developments for primitive camping, biking and hiking opportunities.

Murphy's Bay Access Area and Recreational Cottage
Low Density Recreation (24-MR-L-4)
Corps of Engineers
Pike County, IL
River Mile 290.0
Acres: 0.38
Plate 24-2

General Description: The Murphy's Bay Access Area is located adjacent to private land and the Sny Drainage and Levee District. The area is managed for public and private access purposes and includes the 0.38-acre Murphy's Bay Recreational Cottage Subdivision, plated with one lot. No public access facilities are developed at this time. The lot is excluded from public access under private recreation lease to cabin owner. For public safety, the area is closed to hunting and trapping.

**Proposed Development:** A minimum facility turnaround on the public road is proposed for public safety.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Turkey Lake Access Area and Recreational Cottages
Low Density Recreation (24-MR-L-5)
Corps of Engineers
Pike County, IL
River Mile 289.8 L
Acres: 6.81
Plate 24-2

<u>General Description</u>: The Turkey Lake Access Area is located adjacent to private land and the Sny Drainage and Levee District. The area is managed for public and private access purposes and includes the 6.81-acre Turkey Lake Recreational Cottages Subdivision, plated with twenty-six lots, and adjacent shoreline. Eight lots, totaling 2.24 acres, are excluded from public access under private recreation lease to cottage owners. Eighteen lots, totaling 4.57 acres, are undeveloped and provide public access to the river. No public access facilities are developed at this time. For public safety, the area is closed to hunting and trapping.

**Proposed Development:** Public use patterns in the Turkey Lake Access indicate that there is a demand for improved river access. It is proposed to close the Willow South Access and relocate the concrete boat ramp and crushed stone parking lot to the Turkey Lake Access (RM 289.8) to provide public access to the river for boats up to 25 feet in length. A minimum facility turnaround on the access road is proposed for public safety.

**<u>Future Development</u>**: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Cincinnati Landing Access Area and Recreational Cottages
Low Density Recreation (24-MR-L-6)
Corps of Engineers
Pike County, IL
River Mile 295.0 L

Acres: 29.02 Plate 24-3

General Description: The Cincinnati Landing Access Area is located adjacent to private land and the Sny Drainage and Levee District. The area is managed for public and private access purposes and includes the 29.02-acre Cincinnati Landing Recreational Cottage Subdivision, plated with seventy-one lots and adjacent shoreline. Thirty-nine lots, totaling 19.33 acres, are excluded from public access under private recreation leases to cabin owners. Thirty-two lots, totaling 9.69 acres, are undeveloped and provide public access to the river. Three acres are developed as Cincinnati Landing Access Area. The area is open to the public and popular for fishing, boating, sightseeing, bank fishing and as a barge crew change area. The area includes a crushed stone parking lot with single lane concrete boat ramp and crushed stone entrance road. The area is not flood protected and is frequently flooded during all but minor flood events. At low elevations, the boat ramp is unusable due to the inadequate length of the ramp. The area has a stand of native prairie switch grass dispersed throughout the area.

<u>Proposed Development:</u> The IDNR's proposal to relinquish the lease to the Corps of Engineers will be evaluated in an access study subsequent to approval of this master plan. The boat ramp and parking lot will be minimally maintained. Native switch grasses in this area will be protected.

<u>Future Development</u>: The need for additional minimum facility developments for public health and safety, and project operations will be evaluated in an access study to be completed at a later date.

# **POOL 24 Compartment 11**

Pool 24 Missouri Management Area

UNIT 1 (MO) Lower Pool 24

Lock and Dam 24 Area Operations (24-O-1)
Corps of Engineers
Pike County, MO/Calhoun County, IL
River Mile 273.4
Acres: 125
Plate 24-1, S-10

General Description: The Lock and Dam 24 Area includes the lock and dam and administration complex that includes the storage area, maintenance area, administration office, trilateration stations, overflow spillway, visitor restrooms, visitor overlook and Pleasant Hill Access. The Lock and Dam 24 structure at Clarksville, Pike County, Missouri, and Calhoun County, Illinois, is located at RM 273.4. The structure consists of 110-foot by 600-foot lock located adjacent to the right bank (Missouri side) and a 1,340 foot long gated dam, extending across the river to an overflow dike. There are three chutes dividing Maxi Island below the spillway that provide a flushing effect for the overflow dike where debris and silt are taken across the dike and deposited down stream. This island also provides habitat for deer, turkey, eagles, bats, and numerous small game. The area is closed to hunting.

The lock and dam structure will be receiving Major Rehabilitation and Major Maintenance in the future. The work includes auxiliary lock closure structure removal, miter gate replacement, rehabilitation of concrete on lock walls, bendway weir replacement, upper stream guide cell replacement, and repairs to dam gates. Also scheduled is the relocation and rehabilitation of the visitor overlook to include the addition of phones and a viewing platform, a sheltered viewing area and universal access; the enlargement of visitor parking, and rehabilitation of an existing entrance road with asphalt overlay.

<u>Proposed Development</u>: It is proposed to remove the Pleasant Hill Access from the IDNR park and recreation lease and incorporate it into this operations area as described below.

Two wooden trilateration station structures in this area will be replaced with galvanized metal structures that will also serve as elevated Watchable Wildlife viewing platforms.

**Future Development:** No future development is planned.

Pleasant Hill Access Area, is located upstream of Lock and Dam 24 and the overflow spillway and runs riverside of the Sny Levee system. The area is managed for public access purposes and offers recreational opportunities for fishing, boating, sightseeing, camping, hunting and bank fishing. The access and turnaround are part of the project operations of the Lock and Dam 24 overflow spillway and storage area. The access is maintained for operational service access and as a minimum public facility. A trilateration station is located on top of the Sny Levee just downstream from the entrance road and is used to monitor the movement of the lock and dam on an annual basis. The area includes a crushed stone single lane boat ramp, crushed stone parking lots, crushed stone turnaround located at the control barrier to the overflow spillway, a one mile crushed stone entrance road, a control barrier, three primitive campsites and a trilateration station. The boat ramp is only accessible by small boats (16-foot or less) and due to normal pool

conditions and siltation, the boat ramp is only accessible six months of the year.

<u>Proposed Development:</u> Two wooden trilateration station structures in this area will be replaced with galvanized metal structures that will also serve as elevated Watchable Wildlife viewing platforms. The boat ramp channel will be dredged. This relinquished lease area will be minimally maintained by the Corps until a project-wide access study is completed.

<u>Future Development</u>: Additional minimum facility developments will be evaluated for the Pleasant Hill Access Area for public health and safety, and project operations.

Clarksville Riverfront Area Recreation (24-R-1) Corps of Engineers Pike County, MO River Mile 273.4 L Acres: 8.5 Plate 24-1, S-10

<u>General Description</u>: The Clarksville Riverfront Area is located at RM 273.4 L adjacent to Lock and Dam 24 and the City of Clarksville. The area is managed for public access purposes. Access to the area is from the public Highway 79 and Front Street. The area is open to public access and is popular for fishing, sightseeing, walking, eagle viewing and picnicking. The area includes a chip and seal walking trail, gazebo, a concrete-and-stone flood monument, a crushed stone walk, a ramp for visitor loading and unloading during special events, bank anchors, shoreline revetment, asphalt parking lots, a concrete emergency boat ramp, an information kiosk and security lighting along the road to the lock and dam. The area is closed to hunting due to public safety concerns

The Burlington Northern Railroad track is located parallel to the access area. The gazebo was constructed by the Clompton High School Industrial Arts class and is popular for weddings and other special events. The City of Clarksville provides a public recreation facility on the city owned land adjacent to the downstream side of the Corps owned land. The Clarksville Boat Club is located on this land and provides a boat ramp, docks and parking. The City lands contain picnic shelters, a comfort station, a parking lot and playgrounds and provide access to water and electricity.

**Proposed Development:** It is proposed to install underground electricity and water to the gazebo for special events, replace and/or rehabilitate landscaping at the site, overlay asphalt on service road and parking lots, place benches along trail and shoreline for viewing, and install Great Flood of 1993 elevation marker on flood monument.

<u>Future Development</u>: No future development is planned.

Clarksville Refuge Area
Wildlife Management (24-MR-W-2)
Missouri Department of Conservation
Pike County, MO
River Miles 274.6 – 276.2 R
Acres: 346
Plate 24-1

<u>General Description</u>: The Clarksville Refuge Area is managed by the MDC for fish and wildlife enhancement purposes. Silo Access is located immediately upstream of this site and the Holnam, Inc. industrial lease land (barge loading facility) is located immediately downstream. The first

wetland rehabilitation project in Missouri under PL 99-88, EMP-HREP authority was constructed here.

A 20-year exceedence flood frequency levee was constructed with two 48-inch diameter drains with screw gates placed at the southern end of the area. A portable 16-inch pump and motor system is used to control interior water levels when the pool is below the desired elevation needed. The levee, gated culverts and pumps have been used to exclude sediment-laden waters and to control water levels independent of river stage. These conditions have encouraged plant production that has drawn increasing numbers of waterfowl to the area. Documentation has shown that the project has contributed to an increase in the overall habitat suitability indices. Project outputs have included increased food production, increased longevity of the wetlands, and an overall major increase in migratory waterfowl use of the area. Based on seven years of operation, the project appears to be very successful.

<u>Proposed Development</u>: Develop an observation tower and blind for nature photography and undisturbed waterfowl viewing by the public. An access trail from the Silo Park Access Area will be developed through partnering.

Dredge out the drainage channel to maintain water control functions. Continue to manage the area as a waterfowl refuge through the year.

<u>Future Development</u>: Develop an electric powered deep well to reduce O&M costs and improve water management control.

Pharrs Island Conservation Area Wildlife Management (24-MR-W-3) Missouri Department of Conservation Pike County, MO River Miles 275.3 – 277.2R Acres: 441

<u>General Description</u>: The project area includes Pharrs Island, Island No. 461 and lands on the right bank above Pharrs Island and waters that are presently managed for fish and wildlife purposes by MDC. Lock and Dam 24 at Clarksville, Missouri, is located 2.6 miles downstream of the island. Access to the Missouri shore across from Pharrs Island is provided by Highway 79 and the Silo Park Access Area. The Pharrs Island Conservation Area includes an EMP-HREP project constructed in 1992. Existing infrastructure includes a bullnose rock dike 6,750-foot. long, crown elevation (453 NGVD) 4 feet above normal pool that was constructed with Grade A stone.

Six fish attractors were placed inside the Island complex and held in place with 1500 lb. concrete anchors (2-3, 40-60-foot long trees were anchored to the bottom in 8 feet of water). The area also has 15-20 hunting blind sites. MDC will monitor sediment and fish usage if Environmental Pool Management continues to be implemented by the Corps.

**Proposed Development:** No proposed development is planned.

<u>Future Development</u>: Dredge the interior sloughs to provide more deep water habitat for overwintering fish. Maintain bullnose rock dike and monitor sedimentation rates and fish use of the large rock habitat.

Silo Access Area Low Density Recreation (24-MR-L-7) Corps of Engineers Pike County, IL River Mile 276.0 Acres: 6 Plate 24-1

General Description: The Silo Access Area is located immediately upstream and adjacent to the Clarksville Refuge. Formerly known as Silo Park, a concession service lease, the area is now managed for public access purposes and offers recreational opportunities for fishing, boating, hunting, bird watching, sight-seeing and camping. After the 1993 flood, the leased area was relinquished to the Corps, but the area is still required to access the Clarksville Refuge and Pharrs Island for management purposes. The area includes a double lane concrete boat ramp, a crushed stone service access road, crushed stone parking lot and primitive camping sites. The boat ramp has deteriorated and is unstable during normal and low river conditions due to siltation problems and its limited length. The area is closed to hunting due to public safety concerns.

<u>Proposed Development:</u> Rehabilitate the concrete boat ramp to provide service access, provide shoreline protection and maintain primitive camping sites. Work in partnership with the MDC and the City of Clarksville to develop wildlife viewing blind and hiking trail from Silo parking lot to Clarksville Refuge. This proposed development is contingent on a justification procedure that determines public need for area, while not increasing O&M costs.

Future Development: No future development is planned.

Buffalo Island Area
Vegetative Management (24-MR-V-3)
Corps of Engineers
Pike County, MO
River Mile 281.0
Acres: 49
Plate 24-2

<u>General Description</u>: The <u>Buffalo Island Area</u> is located between the Dyno-Nobel Industrial Lease and the SSS Lumber Industrial Lease. The area is undeveloped and is currently managed for wildlife habitat purposes primarily consisting of natural riparian forest communities providing habitat for resident, migratory, and endangered and threatened species. The natural hydrology has been altered in association with the regulated navigation pool. Management of this area includes protection and restoration of the natural riparian forest communities. The area is open to hunting in cooperation with the MDC.

**<u>Proposed Developments</u>**: No proposed development is planned.

**Future Development:** Remove the sunken barges on upper portion of island.

Holnam Area Industrial (24-X-1) Corps of Engineers Pike County, MO River Mile 274.3 Acres: 293 Plate 24-2

General Description: The Holnam Area is adjacent to the Clarksville Refuge and is managed under a long-term industrial lease to Holnam, Inc. as an industrial site and inland river port for a clinker generating plant requiring a multi-modal interface of rail, trucking and water transportation. A 123.12 acre tract of land currently leased by Holnam Inc., a cement manufacturing facility has been an Industrial Lease for decades. The public lands are located approximately one and one-half miles north of Clarksville, Missouri between State Highway 79 and the Mississippi River (River Mile 274.5). Amenities of this tract include access to the Mississippi River, Highway 79 and the Burlington Northern Railroad. The area provides no public access to the river. For public safety, the area is closed to hunting and trapping.

Section 578(a) of WRDA 1999, Land Conveyance, Pike County, Missouri, directed the Corps to complete a land exchange within two years with Holnam, Inc. The land acquired by the Corps will replace wildlife habitat that has been gradually lost over the years due to the industrial nature of the lessee's development. While the wildlife habitat being replaced is not the same type lost due to development, it is beneficial to the value of the existing Clarksville Refuge, that is comprised of federal property acquired for the navigation project. The conveyance would also eliminate any unnecessary conflict between private entrepreneurial economic development and public land management, and offset the loss of ecosystem values.

Holnam, Inc. has constructed several permanent industrial improvements located in this lease, including a 150 foot by 800 foot barge slip with several stationary barges used for off loading area and several permanent operational buildings. A railroad spur provides rail access from the main railroad line. As such, it has acquired the appearance of private industrialized lands as opposed to publicly held lands. When making normal management decisions on land use, Holnam Inc., must submit to government review, slowing the process and sometimes resulting in significant changes in their plans. In addition, some management practices necessary to keep Holnam, Inc. viable are in direct conflict with Corps Lands Management Directives.

Contained within the Holnam site is an intermittent creek, which flows through the property and empties into the downstream portion of the Clarksville Refuge. Securing this property will enable the district to concentrate on management techniques that will conserve the wildlife habitat of the area, improve the vegetative complex which will result in improved water quality by reducing sediment and pollution entering the Clarksville Refuge.

<u>Proposed Development:</u> An operational management plan for the newly acquired lands will be completed in accordance with the general natural resource management objectives stated in this master plan.

Future Development: No future development is planned.

Dyno-Nobel Area Industrial (24-X-2) Corps of Engineers Pike County, MO River Mile 281.0 Acres: 15 Plate 24-2

<u>General Description</u>: The **Dyno-Nobel Area** is located on the south end of Buffalo Island and managed under a long-term industrial lease to Dyno-Nobel, Inc. The area is managed as a barge off-loading site with elevated pipelines going to the plant across state Highway 79. SSS Lumber, Inc. has requested a lease transfer of all the facility. The Corps is evaluating the request. The area is not flood protected and is frequently flooded during major flood events. There is no public access to the area. Existing facilities include two pipelines, elevated platform, a crushed stone roadway and coffer cells. For public safety, the area is closed to hunting and trapping.

**Proposed Development:** No proposed development is planned.

Future Development: No future development is planned.

SSS Lumber Area Industrial (24-X-3) Corps of Engineers Pike County, MO River Mile 281.5 Acres: 7 Plate 24-2

**General Description:** The area is located on the right bank above Buffalo Island. Facilities include silos, truck loading/unloading facility, barge loading/unloading facility, crushed stone service roads and equipment shops. For public safety, the area is closed to hunting and trapping.

Section 348(g), WRDA 2000, Land Conveyance, directs the Corps to complete a land exchange within two years with SSS Lumber, Inc. The land acquired by the Corps will replace wildlife habitat that has been gradually lost over the years due to the industrial nature of the lessee's development. While the wildlife habitat being replaced is not the same type lost due to development, it is beneficial to the value of the existing Clarksville Refuge. The land conveyance would also eliminate any unnecessary conflict between private economic development and public land management, and offset the loss of ecosystem values.

<u>Proposed Development</u>: An operational management plan for the newly acquired lands will be completed in accordance with the general natural resource management objectives stated in this master plan.

**Future Development:** No future development is planned.

#### UNIT 2 (MO) Upper Pool 24

MIS-19 Access Area and MIS-19 Recreational Cottage Low Density Recreation (24-MR-L-8) Corps of Engineers Pike County, MO River Mile 289.0 Acres: 0.9 Plate 24-2

<u>General Description</u>: The MIS-19 Access Area is located on North Fritz Island and is only accessible by boat. The area is managed for public and private access purposes and includes the MIS-19 Recreational Cottage lot. No public access facilities are developed at this time. One lot, 0.9 acres, is excluded from public access under private recreation lease to cottage owner.

**Proposed Development:** No proposed development is planned.

**<u>Future Development</u>**: Additional minimum facility developments will be evaluated for public health and safety, and project operations.

Ted Shanks Conservation Area Wildlife Management (24-MR-W-4) Missouri Department of Conservation Pike County, MO River Miles 284-294 R Acres: 2,878 Plates 24-3, 24-2

<u>General Description</u>: The **Ted Shanks Conservation Area** is approximately 6,705 acres in size, of which 3,827 acres is owned by MDC and 2,878 is licensed from the Corps. It is located near Ashburn, Missouri, and lies at the confluence of the Mississippi and Salt Rivers. The area is comprised of 3,080 acres of woodland including 2,990 acres of riverine bottomland hardwoods, 600-800 acres of cropland, 2,150-2,350 acres of marshes and sloughs and 300 acres of old fields with the remainder as roads, levees, etc. The MDC first began purchase of the area in 1970.

Development of Shanks began in 1974 and was completed in 1983. The area was developed as an intensive-management wetland complex. There are two pump stations: Goose Pond has two 20-inch pumps with 50-hp diesel power units capable of pumping 11,000 GPM, and Long Lake has two 36-inch pumps with 175-hp diesel power units delivering 23,000 GPM. There are 45 water control structures, 35 miles of levees, and 19 management units. In addition, there is an 8,090 square foot office/passive visitor center and 7,098 square foot maintenance shop on the area. Other public use developments include a concrete boat ramp on Horseshoe Lake, a concrete boat ramp on the Salt River, 16 miles of graveled roads that are open to the public and numerous parking lots.

The Shanks Area is managed to provide a diversity of wetland habitats throughout the year. To accomplish management objectives on the open land, approximately 300 acres are managed as emergent wetlands, 960 acres are managed as moist-soil (annual, herbaceous plants) wetlands, and 600 acres are row-cropped by permit to farmers. Row crops are used to provide high energy food, primarily for migrating waterfowl, and also to set back plant succession on units managed as moist soil wetlands. To improve habitat during migration periods, water will be pumped onto 1,500-1,700 acres of herbaceous wetlands, 600-800 acres of cropland, 2000 acres of woodlands and 575 acres of sloughs and oxbows.

More intensive woodland management is proposed to encourage the regeneration of desirable trees lost primarily in the 1993 flood.

<u>Proposed Development:</u> A Section 206 habitat restoration project has been proposed that would consist of planting 420 acres of open land to approximately 14,700 trees, in an area of relatively higher ground elevations. The planting would provide a contiguous block of timber that would likely have a high rate of survival due to higher/drier conditions and would restore 420 acres of forested wetland ecosystem structure and functions lost as a result of impacts from the 1993 and 1995 floods.

A second Section 206 project would convert approximately 330 acres of formerly wooded wetlands into herbaceous wetlands – primarily to allow for the control of tremendous reed canary grass invasion. The addition of levees will allow improved wetland management on very large units. Reed canary grass invasion will be controlled by spraying or mechanical disturbance.

A proposed EMP project for Corps lands includes partially clearing 190 acres that includes some live overstory pin oak and pecan. In addition the project entails spraying for reed canary grass, clearing 680 acres of reed canary grass for a herbaceous wetland, installation of levees, installation of a pump station, dredging of deep holes for improved fisheries habitat, and improvement of a dewatering unit.

<u>Future Development</u>: Loss of trees had been noted in the woodland portions of Shanks even prior to 1993. Since these woodlands are located on some of the lowest elevations, it is planned to re-establish a hardwood forest complex comprised largely of oak and pecan on some 300 acres of the existing open lands with higher elevations. Coupled with existing oak regeneration in adjacent wooded units, over 800 acres of good bottomland hardwood habitat will be available in the future.

The 1993 flood developed conditions for the spread of reed canary grass over much of the area. It is planned to reduce this invasion in the management units, and to replace the reed canary grass on the levees with native plants.

# KASKASKIA RIVER NAVIGATION POOL Compartment 12

<u>UNIT 1 Kaskaskia Lock and Dam Lands – These lands are now</u> being managed by the Carlyle Lake project office.

Sections 1-4 in this plan present Kaskaskia River Navigation Project information in detail. Pleas refer to those sections for more information regarding project authorizations, project purposes, project descriptions and history, land use, environmental stewardship and habitat descriptions.

#### Introduction:

Congress authorized the Kaskaskia River Navigation Project (KRNP) in 1962 under separate legislation (PL 87-874) from the Mississippi River Nine-Foot Channel Navigation Project. The project included construction of a lock and dam and maintenance of a nine-foot navigation channel from its mouth, upstream to Fayetteville, Illinois (36 miles), that shortened the natural river distance from Fayetteville to the river mouth by approximately 14 miles. The Corps purchased 433 acres in fee title, 2,465 acres for operational easements and 3,496 acres in flowage easements. This land was acquired by the IDOT and transferred to the Corps.

The Kaskaskia River Navigation Project was initially constructed for the purpose of transporting coal out of the area and secondarily as a way to move other barge-transported materials into and away from the area. Now, the prime cargo includes grain, steel, and farming chemicals. WRDA of 1996 authorized fish and wildlife conservation and habitat restoration as a full project purpose. Later, WRDA 2000 authorized recreation as a full project purpose.

The Kaskaskia River Navigation Project was operated as a separate lock and dam project until it was included under the management of the Rivers Project in 1988. As of 2000, the project was combined with the Carlyle Lake project office.

The State of Illinois owns approximately 17,000 acres adjacent to the navigation pool and therefore has complete control over the use and development of these lands. Primary responsibility for the management of these lands lies with the IDNR. Known as the Kaskaskia State Fish and Wildlife Management Area, these lands are managed for fish and wildlife management purposes, and economic development. The development of any facilities on these lands requires permits from the State of Illinois, the St. Louis District Corps of Engineers and the Kaskaskia Regional Port District.

The Kaskaskia Regional Port District provides shipping facilities and ports on the project and promotes navigation and economic development on the waterway. The St. Louis District maintains a 9-foot deep, 225-foot wide channel in the Kaskaskia River during the ice-free season. The lock and dam facility maintains the required channel depth on the Lower Kaskaskia by dredging.

The Kaskaskia River Navigation Project land and water offers a variety of recreational resources. The channelized portion of the river is used heavily for motor boating along with other water-oriented pursuits such as water-skiing, fishing and swimming. The oxbow portions of the river provide a good environment for fishing, hunting and nature studies. The smaller tributaries of the Kaskaskia (Nine Mile, Little Plum, Doza, Silver, Camp, Horse and Richland Creeks) have the potential for providing

suitable canoeing waters. Fishing is the most popular activity on the Kaskaskia River with its 36 miles of channelized river plus additional oxbows, creeks, and floodplain lakes.

The existing project features including access sites, a marina, and river industry locations are shown on the plates. Boat launch ramps are provided on the Kaskaskia River at Fayetteville, New Athens, on Highway 154 west of Baldwin, at Evansville and at the Lock and Dam. Proposed navigational fleeting areas are also shown.

Weekends and holidays throughout the summer, the project experiences the most recreational boat use, and congestion and boater safety are a serious concern. The number of recreational vessels gives an indication of the volume of water-related recreational use. From 1995 to 1999, the average number of recreational vessels per year was 6,331. That was almost three times the five-year average number of recreational vessels at any St. Louis District Mississippi River navigation project (2,276) for the same time period. The recreational capacity of the project and how to best manage current use need to be addressed in any future plan.

A reconnaissance level 216 study is currently being prepared to identify problems and opportunities related to the recent authorization of fish and wildlife, habitat restoration and recreation as full project purposes. The conclusion of this study is expected to produce recommendations for project improvements, many of which may require cost-share sponsors to implement. As a result of this study, the State of Illinois and Corps Master Plans for the KRNP will most likely require updating in order to accurately reflect and authorize new developments or activities related to the new multi-purpose project designations.

A recreational public access plan is being developed as well. The access plan study will evaluate the demand and determine priorities for recreational facilities development including the number and locations of accesses to be maintained or developed. It may result in the State and Corps Master Plans being updated. Proposals based on this study may also include day-use recreation facilities such as shelters, potable water, picnic tables and grills, vault toilets, trails and comfort stations where justified. Approval to fund, build and O&M the required facilities will be obtained through the appropriate Master Plan and OMP prior to implementation.

In 2000, the Kaskaskia Watershed including the KRNP was selected as a pilot project in the Federal Lakes Recreation Demonstration Laboratory Project. This program's purpose is to remove barriers placed in the way of efficient operations through removal of encumbrances established by agency policy and regulations except those established by law. It may result in greater participation in recreational development by the Corps and its partners.

Two major problems facing the project include the siltation of the channel between New Athens and Fayetteville and the head cutting or erosion of the bottom and riverbank that has occurred between Fayetteville and 14 miles upriver. Head cutting has occurred due to increased river speed and slope as a result of the shortening of the channel to create the project. It is causing erosion, siltation of the channel between Fayetteville and New Athens, and damage to the bottomland hardwood forest. Reestablishment of the channel between New Athens and Fayetteville is necessary to allow development of a grain terminal at Fayetteville by the Port District and four farm cooperatives.

Structures needed to correct the head cutting problem will be located above Fayetteville in an area outside the original project limits. A Design Deficiency Study was approved by MVD. When complete it will be

forwarded to Headquarters for review and approval. If approved, funds will be requested through the Construction General appropriation.

The cost to reestablish the channel between New Athens and Fayetteville is estimated at five million dollars. Currently, there are no Operation and Maintenance funds for the work. Should dredging occur prior to stopping the head cutting, the current grade control structure at Fayetteville will be monitored to assure another round of head cutting does not start up river at Fayetteville. If any problems are detected, emergency repairs will be made to the present grade control structure.

The St. Louis District will perform environmental stewardship work within the operations easement and navigational servitude authority. A non-federal cost-share partner is required for all habitat restoration work that may be pursued. The opening of remnant side channels (meanders) that were cut off by the project's construction is one of the actions proposed to improve aquatic habitat.

Kaskaskia River Project
Kaskaskia Lock Operations Area (K-O-1)
Corps of Engineers
Randolph County, IL
River Mile 0.8 R
Acres: 101
Plate K-1. S-12

**General Description:** This area lies both upstream and downstream of the Lock on the right descending bank. Lands within this area lie low in the floodplain and are inundated on a routine basis. The western boundary of the area is formed by a mainline flood protection levee (Prairie DuRocher and Modoc Levee District) while the eastern boundary of this area is approximately at the centerline of the navigation channel.

The area is comprised of developed land with a small (2-3 acre) bottomland forest component at the furthest upstream end. The area contains the Kaskaskia Lock, a Visitor Information Center at the lock, maintenance facilities, entrance road, trilateration stations, and service access areas upstream and downstream of the lock that are required for operations purposes. The operations service access downstream of the lock contains a boat ramp and turnaround offering direct access to the navigation channel, the downstream portion of the lock structure and the confluence with the Mississippi River.

This area is managed to directly provide for and support the navigation mission of the Corps. The lock is operated continuously. This structure and all others support structures are routinely maintained with major maintenance scheduled as indicated by periodic inspection. The entrance road and parking lot are maintained as required and resurfaced, at a minimum, every 10 years.

As the public visits the lock, they are directed to the Visitor Information Center where current brochures and passive displays are available. Lock and dam tours are offered to increase public satisfaction. In addition, the public is invited to use the non-restricted areas for fishing and boating on the main channel, bank fishing, bird watching, sightseeing, and picnicking. The downstream service access is also available for public use; however, it is restricted at certain times in order to conduct maintenance activities associated with the operation of the lock and dam.

<u>Proposed Development</u>: Proposed development will be addressed in the recreational plan. Any facilities needed in the interim will be handled through a supplement to this plan or in the Operational Management Plan.

The frequent flooding has led to the establishment of non-native grasses that require a significant amount of work to maintain in an aesthetically pleasing condition. Parts of these areas will be converted to native flood tolerant grasses and forbs.

**Future Development**: Challenge Cost-share agreements, or any other type of recognized cost-share agreements will be considered in order to provide amenities for the public. These could consist of expanded parking facilities, picnic shelters, vault-type restroom facilities, nature trails, nesting boxes, etc. All additional facilities of this type would have to be designed to withstand flooding or to be removable.

Kaskaskia River Project
Kaskaskia Dam and Disposal Area (K-O-2)
Corps of Engineers
Randolph County, IL River Mile 0.8
Acres: 161
Plate K-1

**General Description:** This area lies both upstream and downstream of the Lock on the left descending bank. Lands within this area lie low in the floodplain and are inundated on a routine basis. The west boundary of the area is approximately at the centerline of the navigation channel, the southern boundary at the downstream dredge containment levee, and the northern boundary at the old channel cut off. The eastern boundary follows the federal ownership line, which bisects the dredge disposal containment area.

The area is comprised of developed and non-developed lands and contains the dam and tainter gates, the old river channel cut off, a portion of the old river channel, and the dredge disposal containment area for the lower navigation channel and lower lock locations. Service access to the area is mainly by boat. A primitive dirt trail, which crosses private land, can be used to gain vehicular access to the dredge disposal site during favorable weather conditions.

This area is managed to directly provide for and support the navigation mission of the Corps. The dam, which sustains the appropriate water level for the navigation pool, is operated continuously. The old river channel cut off also serves to maintain the navigation pool by preventing the normal flows from entering the old river channel. In addition, this structure also acts as a spillway during flooding and allows excess flows to enter the old river channel bypassing the dam. Both of these structures are routinely maintained with major maintenance scheduled as indicated by periodic inspection. The navigation channel is maintained through dredging as indicated by hydrologic surveys. The dredge material is placed in the dredge disposal containment area. The dredge disposal containment area is maintained on a routine basis. At a minimum, heavy equipment is brought into the containment area every 4 years in order to remove woody growth, which reduces capacity and otherwise limits the usefulness of the containment area. The levees surrounding the containment area are critical and have had some structural type problems. In order to rectify these problems, the lower end of the levee will be monitored and rebuilt as the situation warrants. The dredge containment area is managed in cooperation with the Kaskaskia River Port District.

Although the access to the area is limited to boating and hiking, the public does visit the area. Popular pursuits include fishing and boating on the main channel, bank fishing, fishing and boating in the old river channel, sight seeing, bird watching, mushroom gathering, and hunting

in accordance with state regulations. Portions of this area may be restricted at times due to maintenance or operational type activities.

<u>Proposed Development</u>: Proposed development will be addressed in the recreational plan. Any facilities needed in the interim will be handled through a supplement to the Master Plan or in the Operational Management Plan.

<u>Future Development</u>: If a real estate easement can be obtained, the existing dirt access trail will be improved to a rock surface and maintained. Challenge cost-share agreements or other suitable cost-share type agreements will be considered to add amenities for the public along this service road. Such amenities may include parking lots, hiking trails, boat launching areas, etc. All additional facilities will be designed to withstand flooding.

Kaskaskia River Project
West Confluence
Vegetation Management Area (K-V-1)
Corps of Engineers
Randolph County, IL
River Mile 0.0 R
Acres: 77
Plate K-1

General Description: This area is located downstream of the lock. It includes the west side of the confluence of the Kaskaskia River and the Mississippi River. The lands within this area lie low within the floodplain and are subject to frequent inundation. Both the Mississippi and the Kaskaskia Rivers play major roles in the hydrologic regime of this area. The land area is heavily forested with the primary species being cottonwood, maple and ash. The area contains approximately 3 acres of abandoned agricultural fields, which are fast returning to forested bottomland through natural succession. The topography is characteristic of a bottomland forest with an extensive well developed ridge and swale component. Some of the depressed areas hold water through mid-June without the necessity of significant rainfall. A service access trail is located along the Kaskaskia River bank and extends to the Mississippi River.

The public does visit the area. Main pursuits include fishing and boating on the Kaskaskia and Mississippi Rivers, bank fishing, bird watching, sight seeing, mushroom gathering, hiking, seasonal permitted primitive camping, and hunting.

<u>Proposed Development</u>: This area is managed to provide a healthy bottomland forest and to supply a diversity of high quality wildlife habitat. Additional management goals are to supply adequate ground cover in order to curtail the erosive effects of both rivers, to improve water quality by limiting sedimentation and to sustain adequate aquatic habitats. The forest will be maintained through planting and selective harvesting as indicated by inventory and routine inspection. The 1993 flood caused extensive mortality of the mature trees, particularly of the mature cottonwoods and the scattered pecan trees along the ridges. Plantings will seek to reinforce the mast producing species while maintaining adequate stocking densities of major bottomland species. The service trail will be maintained and repaired as required and the primitive camping will be consolidated to a designated area. Nesting structures will be placed and monitored under a volunteer agreement.

<u>Future Development</u>: The standing water component of the bottomland habitat will be increased through the use of passive water control

structures and reopening some of the interior drains to reconnect the naturally occurring low areas to the river. Seedlings/saplings of desirable mast producing species will be individually planted in appropriate areas to increase and improve habitat diversity.

As the public use increases, the Corps will entertain Challenge Cost Share Agreements, or other suitable agreements to provide amenities. Such amenities could include a designated group camp area, designated hardened primitive campsites, improved parking areas, hiking trails, etc. All additional facilities will be designed to withstand flooding.

Kaskaskia River Project
Old River Confluence
Vegetation Management Area (K-V-2)
Corps of Engineers
Randolph County, IL
River Mile 0.0 L
Acres: 23
Plate K-1

<u>General Description</u>: This area is located downstream of the dam. It includes the east side of the confluence of the Kaskaskia and Mississippi Rivers and the mouth of the old Kaskaskia River Channel. The lands within this area lie low within the floodplain and are subject to frequent inundation. Both the Mississippi and Kaskaskia Rivers play major roles in the hydrologic regime of this area. The land area is heavily forested with the primary species being cottonwood, maple and ash. The topography is indicative of a bottomland delta type forest with minor ridge and swale development.

The public does visit the area. Main pursuits include fishing and boating on the Mississippi and Kaskaskia Rivers, bank fishing, fishing and boating in the old Kaskaskia River channel, bird watching, sight seeing, and hiking.

<u>Proposed Development</u>: This area is managed to provide a healthy bottomland forest and to supply a diversity of high quality wildlife habitat. Additional management goals are to supply adequate ground cover in order to curtail the erosive effects of both rivers, to improve water quality by limiting sedimentation and to sustain adequate aquatic habitats. The forest will be maintained through natural regeneration, which is supplemented with planting as indicated by forest inventory and routine inspection. In order to maintain adequate aquatic habitat, the silt plug at the mouth of the old river channel will be removed. This will promote free exchange of water with the river and will provide over wintering and nursery habitat for fish.

<u>Future Development</u>: No further development contemplated at this time.

Kaskaskia River Project
Old River North Cut Off
Vegetation Management Area (K-V-3)
Corps of Engineers
River Mile: 1.0 L
Acres: 71
Plate K-1

<u>General Description</u>: This area is located upstream of the dam on the left descending bank. The extreme northern portion of the old channel cutoff is included within this area. The lands within this area lie low within the floodplain and are subject to frequent inundation. The area is heavily

forested with willow, cottonwood, and maple being the primary species. The area does contain approximately 10 acres of abandoned agricultural fields, which are fast returning to forested bottomland through natural succession. The topography is typical of a bottomland forest with ridge and swale characteristics intermingled with a portion of remnant river channel and sloughs. The sloughs have been exaggerated by the raising of the navigation pool and have resulted in increased wet and semi-emergent habitat. Primary access to the area is by boat, however, a dirt trail can be used at certain times of the year to access this area. The trail crosses private land prior to accessing government land.

The public does visit the area. Main pursuits include fishing and boating in the remnant channel and sloughs, bank fishing, hiking and hunting.

<u>Proposed Development</u>: This area is managed to provide a healthy bottomland forest and to supply a diversity of high quality wildlife habitat. Additional management goals are to supply adequate ground cover to limit the erosive effects of the Kaskaskia River at flood stage, to supply adequate stability to the northern end of the old channel cut off to maintain navigation pool, to improve water quality by limiting sedimentation, and to sustain high quality aquatic habitats in the main river channel, the remnant channel area and associated sloughs. The forest will be maintained through natural regeneration, which is supplemented with plantings as indicated by forest inventory. A portion of the area will be maintained in old field habitat. This is accomplished by succession mowing and/or selective timber harvest (patch cuts). In order to maintain the aquatic habitat, a silt plug will be removed at the mouth of the slough complex. This will promote free exchange of water and provide of over wintering and nursery habitat for fish.

<u>Future Development</u>: Before any development of this area could occur, it will be necessary to obtain an access easement for the dirt trail. Challenge cost-share agreements or other suitable cost-share type agreements will be entertained to add amenities for the public along this service road. Such amenities may include parking lots, hiking trails, display boards, etc. All additional facilities will be designed to withstand flooding.

# **UNIT 2 Operations Easement Lands**

Kaskaskia River Project
Operations Easement Area
Vegetative Management (K-E-1)
Corps of Engineers/
Illinois Department of Natural Resources
Randolph, Monroe, and St. Clair Counties, IL
River Miles 1.2 to 55.9
Acres: 2,465
Plates K-1 – K-4

<u>General Description</u>: This area contains the navigation canal, which shortened the distance from Fayetteville to the river mouth by 14.3 miles. As the canal was built, 26 of the river bends were sliced off leaving remnant channel segments. Most of these original channel meanders were closed off on the upstream end in order to minimize sediment introduction. The lower ends were left open, thus creating a significant backwater system. The lower ends of the remnant channels are experiencing significant siltation, causing the backwaters to become isolated from the river system. The lands associated with this area lie low within the floodplain and are inundated on a routine basis.

The public does visit the area. Main pursuits include fishing, boating, hunting, picnicking, and bird watching.

Proposed Development: This area is managed to support the navigation mission, sustain and improve aquatic habitats, to provide a healthy bottomland forest and to supply a diversity of high quality wildlife habitat. Additional management goals are to supply adequate ground cover in order to curtail erosion and to improve water quality by limiting sedimentation. The forest will be maintained through natural regeneration, planting and selective harvesting as indicated by inventory and routine inspection. The 1993 flood caused extensive mortality of the mature trees, particularly of the mature maples and scattered mast producing trees. In order to reconnect the backwater areas, the sedimentation at the mouths of the remnant channels will be addressed. These silt plugs will be removed. Various engineering solutions will be investigated and, if warranted, appropriate river regulation structures will be placed in order to limit future sediment deposition in these critical areas. Baseline inventories, in cooperation with IDNR, will be accomplished and maintained for the aquatic, wildlife and vegetative resources of the area. Management will be based on a Habitat Needs Assessment, which is founded on the inventory data. Designated dredge disposal sites will be subject to periodic site disturbance in order to assure continued availability. This activity will be in accordance with specific management goals developed in cooperation with IDNR.

**Future Development:** The Lower Kaskaskia River Stakeholders, Inc. will function as the major stimulus for future development of this area. Depending upon their recommendations and the partnerships that would result from implementation, the Corps will actively pursue opportunities under the various CAP authorities (1135, 204, 206, Section 14, etc), Challenge Cost Share agreements, volunteer agreements, and Memoranda of Agreement and Memoranda of Understanding.

Kaskaskia River Project
Kaskaskia River Flowage Easement Area (K-E-2)
Corps of Engineers
Randolph, Monroe, and St. Clair Counties, IL
River Mile
Acres: 3,496
Plates K-1 – K4

General Description: These lands and waters are located immediately adjacent to the navigation channel described in the Operation Easement Area and other backwaters and tributaries of the Kaskaskia River. The lands lay low within the floodplain and are indicative of primary to secondary bottomland sites. The forest areas are typical bottomland with maple, ash, and cottonwood being the primary species with mast producers increasing in numbers in the secondary bottoms. The area also contains open agricultural fields, developed industrial areas operated by the Kaskaskia River Port District (KRPD) and other businesses, and recreational development consisting of boat ramps, boat docks, cottage sites, camp grounds, and day use areas operated primarily by the IDNR.

The area is heavily used by the public. Pursuits include boating, sight-seeing, fishing, hunting, bird watching, camping, and picnicking.

The IDNR manages the area under the precepts of multiple use. Wildlife management techniques include agricultural leasing, food plots and water level manipulations on created wetland areas. In addition, the IDNR manages the fishery through adjusting open seasons and creel limits on selected species and provides campgrounds, picnic areas, boat ramps and parking lots for the visiting public.

<u>Proposed Development:</u> Currently the only authority the Corps has in this area is to occasionally flood the area during times of high water. There is a possibility, through the various CAPS programs, for joint projects with IDNR to assist in the environmental restoration of selected backwater areas.

**Future Development:** No future development is planned.

# OPEN MISSISSIPPI RIVER (From St. Louis, MO to Cairo IL.) Compartment 13

General Description: The Open Mississippi River includes the river channel itself and floodplain lands and waters from the St. Louis area to the southern jurisdictional boundary of the St. Louis District Corps of Engineers at the confluence of the Ohio River at Cairo, Illinois. The Corps does not administer any federally owned public lands along this section of the Mississippi River other than the Kaskaskia River Navigation Project and the Cache River Diversion. The Corps' sole authority in this reach is to develop and manage the Nine-Foot Navigation Channel through construction, operation and maintenance of regulating works and through dredging. However, in accomplishing this mission, opportunities are often identified to achieve environmental stewardship benefits and, in some cases, recreational benefits on the river incidental to or as a product of work conducted to operate and maintain sound commercial navigation conditions on the river. Section IV of this plan describes some of the environmental and recreation improvements that can be realized through the construction, operation and maintenance of regulating works and through dredging.

A fairly new and innovative approach currently underway for maintenance of the navigation project is the Thompson Bend Riparian Corridor Project. The purpose of this project, located between RM 9 and RM 28 on the right descending bank, is to provide for bank stabilization, control overbank scour and reduce overbank flows that could cause side draft currents or result in a bendway cut-off. The centerpiece of this project is the establishment and maintenance of a tree screen along the top bank of the river. When complete, the tree screen will be 300 feet wide and approximately 11 miles long. In addition, some areas which were previously planted are included in this project. This results in a total project size of approximately 530 acres, to be reforested and maintained by the St. Louis District. This land is in the process of being acquired by the St. Louis District through purchasing restrictive easement from the individual landowners. The primary purpose of this planting is to control flows and abate erosive effects. As such, the characteristics of the majority of the tree species selected concentrate on water tolerance and fast growth. Secondary benefits are to increase the number of acres of bottomland forest, to increase the diversity of the ecosystem and to secure the maximum wildlife habitat value consistent with the primary purpose of the project. In order to promote the secondary benefits, were appropriate, tree species are selected which supply greater wildlife benefit, are water tolerant and are species historically associated with the Mississippi River bottomland forests. The Rivers Project Office will be responsible for establishment and maintenance of the acres.

This project is a cooperative effort between the Corps, Levee District #3 and the local landowners.

<u>Proposed Development</u>: Continue to implement an innovative river engineering program that is well-coordinated and supported by agency partners and to operate and maintain the navigation channel in full compliance with all applicable federal environmental laws.

<u>Future Developments:</u> Request approval and funding to develop environmental restoration projects through partnering and utilizing appropriate Continuing Authority programs, the Environmental Management Program or other authorized programs. Further discussion in contained in subsection 9.21, Open River Issues.

# CACHE RIVER DIVERSION CHANNEL Compartment 14

Cache River Diversion Channel Project
Operations (C-O-1)
Corps of Engineers
Pulaski and Alexander Counties, IL
River Mile 13.0
Acres: 93
Plate O-2

General Description: The Cache River Diversion Channel is an 89.14 diversion channel with 3.63 acre easement area located at RM 13.0. The project was authorized by the Flood Control Act of 28 June 1938. The project provided for construction of a diversion channel from the point where former channel of Cache River intersected the Mounds and Mound City Levee to the new outlet into the Mississippi River. Construction of the project was initiated in June 1940, and the project was ready for beneficial use in December 1950. Two railroad and one highway bridge was constructed. The Cypress Creek National Wildlife Refuge managed by the USFWS and the Cache River State Natural Area managed by the IDNR borders the upper portion of the diversion channel. The Cache River Diversion Channel is 5,260 feet in length and The diversion channel slopes are covered with 400 feet in width. concrete and the mouth of the channel has rip rap protection. Operational maintenance of the area has not been accomplished during the past ten years.

<u>Proposed Development</u>: Proposed development includes reestablishment of boundary line, removal of siltation and vegetation along the channel. Minor repairs to shoreline protection needed.

**<u>Future Development</u>**: There are no proposals at this time.

# 7.5. LAND USE CLASSIFICATION SUMMARY

The acreage in the following tables was based upon lease acreage, real estate tract information and digital mapping. Erosion and accretion along the Mississippi River shoreline has changed the acreage managed and therefore does not correspond to the totals for the acreage that was originally purchased as shown in *Table 2 – 1 on page 2 – 1*.

Recreation Areas include Corps recreation areas, marinas and state recreation areas.

Table 7 – 2 Land Use Classification Summary Pools 24 - 27, and Kaskaskia Navigation Project

Land Use Classification	No. of Areas	Acres
Project Operations Areas	11	3,508
Recreation Areas	11	588
Wildlife Management Areas (GP Lands)	24	32,329
Vegetative Management Areas	25	7,616
Low Density Recreation Areas	29	461
Environmentally Sensitive Areas	5	719
Industrial Lease Areas	8	937
Mitigation Areas	2	1,483
Total Management Areas	115	47,641

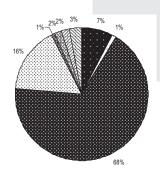


Table 7 – 3 Pool 24 Land Use Classification Summary

Land Use Classification	No. of Areas	Acres
Project Operations Area	1	125
Recreation Areas	2	253
Wildlife Management Areas (GP Lands)	4	3,813
Vegetative Management Areas	3	2,658
Low Density Recreation Areas	8	60
Industrial Lease Areas	3	315
Total Management Areas	21	7,224

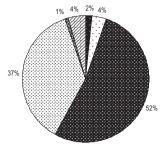
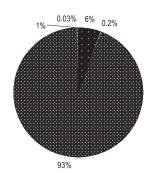


Table 7 – 4 Pool 25 Land Use Classification Summary

Land Use Classification	No. of Areas	Acres
Project Operations Areas	2	551
Recreation Areas	1	19
Wildlife Management Areas (GP Lands)	6	9,113
Vegetative Management Areas	1	3
Low Density Recreation Areas	5	62
Total Management Areas	15	9,748



1% 3% 6% 1%<sup>1%</sup> 1%

Table 7 – 8 Pool 26 Land Use Classification Summary

Land Use Classification	No. of Areas	Acres
Project Operations Areas	3	313
Recreation Areas	8	316
Wildlife Management Areas (GP Lands)	14	19,403
Vegetative Management Areas	11	3,754
Low Density Recreation Areas	15	337
Environmentally Sensitive Areas	4	679
Mitigation Areas	2	1,483
Industrial Lease Areas	1	354
Total Management Areas	58	26,639

Table 7 – 5 Pool 27 Land Use Classification Summary

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Land Use Classification	No. of Areas	Acres
Project Operations Areas	2	2,436
Recreation Areas	0	0
Wildlife Management Areas (GP Lands)	0	0
Vegetative Management Areas	7	1,030
Low Density Recreation Areas	1	2
Environmentally Sensitive Areas	1	40
Industrial Leases	4	(268*)
Total Management Areas	15	3,508

<sup>\*</sup>These acres included in Operations

39%

Table 7 – 6 Kaskaskia Navigation Project Land Use Classification Summary

Land Use Classification	No. of Areas	Acres
Project Operations Areas	2	262
Vegetative Management Areas	3	171
Total Management Areas	5	433

Table 7 – 7 Cache River Diversion Channel

Land Use Classification	No. of Areas	Acres
Project Operations Areas	1	89
Total Management Areas	1	89

# 7.6. RIVERS PROJECT FLOWAGE EASEMENTS

Throughout the Rivers Project Area, flowage easements have been acquired for improvement of the river for navigational purposes. These easements provide the right to overflow, permanently or intermittently, to excavate and remove material, and to cut, remove and dispose of all timber and other natural or artificial obstructions which shall at any time and in any manner interfere with the use of said land for navigation purposes. There are no government owned facilities on these easement areas.

All easements are inspected every five years for compliance with easement conditions and any minor operation and maintenance requirements are evaluated and/or implemented at that time.

The following table summarizes the acres of flowage easements within the Rivers Project Service Area

Project Area	Acres
Navigation Pool 24	1,979
Navigation Pool 25	1,526
Navigation Pool 26 (Melvin Price Locks and Dam )	4,496
Chain of Rocks - Locks 27	221
Kaskaskia navigation Project	3,496
Open River	

# 7.7. FACILITY AND INFRASTRUCTURE DESIGN CRITERIA

# **General Discussion**

This section deals with design criteria applied in the site planning proposals.

The Corps recognizes from experience that site characteristics have to be considered in an area in its ability to support proposed development. Site characteristics are the beginning point for making physical development decisions. Further design phases will require topographic surveys and localized borings to understand fully the site characteristics and provide the information needed for good design and sound construction.

Recreational sites are adjacent to the main channel, backwater sloughs, and lakes within the River flood plain. New recreation sites have not been added to the project. Development is limited to enhancement of existing areas and their facilities. All existing development and proposed improvements are subject to flooding.

Numerous fish and wildlife management areas operated by the USFWS, IDNR or MDC on Corps-administered General Plans lands exist throughout the Rivers Project. Several Vegetative Management areas are also operated and maintained by the Corps for environmental stewardship purposes.

Basic design considerations for the proposed development at the Rivers Projects are discussed in the following paragraphs.

These guidelines are presented in order to avoid confusion, eliminate duplication of design effort, and to provide a general guide to design, construction, and implementation of the facilities proposed. Design guidance is also addressed by EM-1110-1-400, EM 1110-2-410, ER 1165-2-400, ER/EP 1130-2-550 and ER/EP 1130-2-540.

The guidance provided herein addresses the concern for functional use, creative design, environmental harmony, and economical construction and operation. The following design parameters provide for the health, safety, security, and accommodation of visitors in all aspects of development.

# Recreation

All proposed and future site facilities at the Rivers Project should be compatible with existing natural and constructed features and a detailed analysis completed prior to design implementation.

Generally, development of areas along the River should be sited in a manner to minimize disturbance of the natural site features. However, certain site features such as soil characteristics and frequent flooding can present serious constraints to optimum facility development. Prior to preparation of detailed facility designs, a preliminary analysis and surveys should be made of site-specific conditions.

# **Buildings**

The architectural character and design of/future project buildings should be in accordance with the following criteria:

- All buildings should be designed and sited to blend with the natural surroundings.
- The design and materials, as well as the architectural details of future structures, should be standardized throughout the recreational areas. Initial construction, structural revisions of existing facilities, and future structures should match existing structures insofar as practical.
- All buildings should be designed to withstand heavy public usage, vandalism, and flooding.
- The design and construction of all buildings and facilities should allow use by people with physical disabilities.

#### **Utilities**

Water systems, sewage collection, and electrical distribution should be given special consideration during the planning stage and throughout the design, construction, and operating stages of all buildings, facilities and areas in order to provide a healthy, safe and secure environment for the public and natural resources. All federal and state utility codes will be met and maintained.

#### **Parking**

Parking areas are proposed where needed to support public recreation use. Adequate parking spaces provided to satisfy projected demands during peak recreation periods. In developed, heavily used recreation areas, parking area should be paved with asphalt over a crushed gravel base, graded so that direct runoff will occur, and curbed or lined to control vehicle use. Screening may be required to reduce visual impact.

Parking spaces for vehicles with trailers should be pull-through type, 10 feet wide and 42 feet long. Turning radii for car-trailer parking should be a minimum of 15 feet. However, the angle of the parking and ultimate alignment may vary to suite existing conditions.

Parking and access to restrooms should be designed in accordance with Uniform Federal Accessibility Standards (49 FR 31528) to allow equal access to, and utilization of facilities by all visitors. Approximately 5 percent or parking spaces should accommodate people in wheelchair or with other disabilities.

# **Boat Launching Ramps**

The design of boat launching ramps is determined by many factors: the size and characteristics of the boats, trailers and vehicles; the topography and physical conditions such as soil type, River level fluctuations, currents, relation to the navigation channel or structures, and prevailing winds; as well as safety features and provisions for people with physical disabilities.

Concrete ramps will be surfaced with 6 inches reinforced concrete over an aggregate base. Launching lanes will be 12 feet wide and striped for efficient use. Parking will be provided at a rate of 15-20 spaces per lane.

Ramps should serve for launching boats into annual high and low water conditions, if feasible. Many existing launching facilities require upgrading to reflect safety and unrestrictive access guidelines.

#### Roads

Road design within the project should provide functional auto circulation that is minimally disruptive to other project activities. Project ecology should be preserved as much as possible with only minor earth grading or cut-and-fill operations required.

Developed Recreation Area roads will be designed according to the parameters established in EM 1110-2-410

Developed area roads should be constructed of asphalt paving on an aggregate base with transverse slopes used to drain the surface. Underdrains should be installed where curbs are present or where needed for proper drainage, otherwise collector trenches on the low sides of the roads will be utilized to collect runoff water and transport it to disposal areas.

Specification of roadways should comply with American Association of State Highway Testing Officials (AASHTO) standards.

Many of the rural roads on public lands along the River are gravel surfaced. Road widths to safely accommodate, two lanes of traffic with necessary drainage features or structures will be maintained. Fresh gravel will be applied to roads as needed or roads with heavy use will be chipped and sealed or receive some other hardened (bituminous) surface application.

#### Picnic Areas

The design of picnic areas should provide for public use while protecting the natural resources at the chosen site. Picnic sites should be located in a manner to provide a diverse user experience while minimizing undesirable elements or conflicting activities. Support facilities such as roads, parking, water, and sanitation should be provided in a manner that will serve the requirements of the public, but not detract from the natural features that make the site inviting. Individual picnic units will consist of one table and one grill. Individual trash receptacles have been replaced in favor of garbage dumpsters located at the edge of parking areas. Group shelters may be provided to protect the visiting public from inclement weather or where tree cover is minimal and to provide an assembly area for visitor group activities such as picnics, meetings, and/or interpretive programs. Group shelters should be made accessible to people with physical disabilities and sized to accommodate 4-12 six-person picnic tables with adequate space between tables. Approximately 10 percent of all picnic tables should be available to accommodate the physically disabled.

#### **Trails**

There is demand for three kinds of trails at Rivers Project:

- Walking/Hiking
- Equestrian, and
- Bicycle.

# Bicycling

Bicycle trails, while much in demand, are normally fairly expensive usually requiring participation/provision of a non-federal entity. As interest is bicycling is sustained and grows, local interests should be encouraged to provide appropriate facilities through partnering in areas that could be provided through a lease or license or other arrangement. It should be noted, however, that the increased use of all terrain "mountain bikes" provides a less expensive option for construction of bike trails.

# Walking/Hiking

These kinds of trails should be constructed of compacted or otherwise stabilized soil to a width of 42 inches. They should generally be primitive in character, although adequate drainage ditches and culverts should be provided to assure a dry surface as frequently as possible. When slopes become excessive, steps of treated wood timbers should be used.

Walks and trails for people with disabilities have considerably more stringent requirements. In most cases, at least bituminous pavement should be provided to a minimum width of four feet or optimally five feet. Running slopes should not exceed five percent and cross slopes should not exceed two percent. A level rest area should be provided every 200 feet. Curbs should be provided at all drop-offs and should be augmented by railings where a drop-off will be more than 30 inches.

### Equestrian

All equestrian trails should have under- brush cleared to a width of six feet with an overhead clearance of eight feet. Proper drainage and other measures to prevent erosion and/or to promote harmless collection of silt should be provided

# Signs

All signage throughout the project should be consistent and uniform. Where feasible, federal recreation and international symbols should be used. The sizes, configuration and placement of signs should conform to the latest approved version of USACE Sign Standards Manual (EP 310-1-6, a. and b.)

#### Minimum Facilities

Minimum facilities are those minimum cost facilities or minimal project modifications or developments that serve other purposes and are necessary for public health and safety. Under Section 3(a) (2) of PL 89-72, these minimum facilities are in the national interest and may be provided by the Corps at existing public access locations in the absence of a non-federal sponsor. These facilities may only serve incidental recreation or fish and wildlife benefits where these benefits are not vendible, are not predominantly local, and are strictly inherent to the Rivers Project lands or waters. Examples of minimum facilities are turnarounds at roadends, guardrails, gates, barriers, vault toilets, trash receptacles, service boat access, etc.

Public use patterns may indicate that certain minimum facilities be provided for public health and safety if access by the public cannot be directed to other safe locations or otherwise controlled. These types of minimum facilities exist or will be provided with existing routine authorized operations and maintenance activities and are not required to be included in the management area descriptions of this Master Plan. Significant minimum facility developments such as operational or emergency boat launching facilities are included with the management area descriptions under proposed development.

# **Environmental Stewardship**

Fish and wildlife enhancement and vegetative management activities are a primary focus on the majority of public land and water acres administered by the Rivers Project office.

The USFWS, the IDNR and the MDC are responsible for providing fish and wildlife enhancements on most of the Rivers Project lands though the General Plan and Cooperative Agreements with the Corps. The Rivers Project office provides environmental stewardship activities on public lands and waters in areas classified as vegetative management. In general, many of the best habitat areas on the River have been selected for USFWS and state management. The Corps managed Vegetative Management areas primary include the remaining peripheral and/or small isolated parcels of public lands and waters.

Site selection for fish and wildlife enhancement measures are based on physical characteristics and potential for habitat improvement, primarily through vegetation manipulations, water control and shoreline and floodplain erosion and sedimentation control.

Numerous structural and non-structural management techniques are employed to provide habitat enhancements. Planning to develop and implement habitat management techniques generally requires detailed habitat evaluations and inventories, topographic surveys, water depth soundings and hydraulic analysis.

Many of the fish and wildlife enhancement activities conducted by the natural resource management agencies on Rivers Project administered lands and waters requires the construction and operation and maintenance of facilities and infrastructure designed to manipulate water levels on the back water lakes, sloughs and other floodplain habitats to optimize conditions for migratory birds and other wetland wildlife.

Low-level containment dikes, ditches for conveying water, concrete or CMP gravity drain, culverts or pipes with either sluice, stoplog of sliding gates and permanently installed or portable water pumping systems are the primary facilities and infrastructure used to manage water for habitat enhancement.

The primary function of these wildlife management area facilities and infrastructure is to allow the wildlife manager to have limited water control capability independent of normal river stage fluctuations to drawdown or remove water from a management unit during the growing season to allow natural germination and growth of native food plants valuable to migratory birds, of to artificially plant and grow desirable wildlife food plants. During the early fall, these vegetated areas are then flooded with shallow water to provide accessible and optimum feeding and resting areas for migratory birds during the fall migration. Water control facilities and infrastructure can be or are also used to enhance fish spawning and rearing, for aquatic vegetation enhancement and to promote viable and accessible aquatic invertebrate populations utilized by many fish and wildlife species for food.

Since the early 1990s, many new water control facilities and infrastructures, as well as other types of habitat infrastructures, such as specialized rock dikes and revetments, islands, dredged channels, and fish spawning and rearing structures, have been constructed on Rivers Project administered lands and waters through the Environmental Management Program authority and funding.

Design Criteria and Design Typicals for fish and wildlife management facilities and infrastructure are best described in the Definite Project

Reports (DPR) prepared for each of the Environmental Management Program - Habitat Rehabilitation and Enhancement Projects (EMP-HREP) completed in the St. Louis District to date. Subsection 8.5 of this Master Plan provides a listing of EMP-HREPs completed or under development in the district.

# 7.8. RECREATIONAL BOATING USE OF THE NAVIGATION CHANNEL AND LOCKS AND DAMS

A number of recreational-boat access points have been built and are maintained at frequent intervals along the rivers. Visitors use the access points and the Mississippi River at their own risk. Navigation aids are placed in the River to assist boaters. The River is frequently patrolled by Federal and state authorities. Civil law enforcement authorities have jurisdiction for rescue and recovery operations.

Several small-boat navigation aids are available to individual boaters and these can be separated into two general categories: rules and regulations, and visual aids.

# **Rules and Regulations**

All recreational boat operators should familiarize themselves with the following:

The rules for passing vessels, fog signals, and lights. This information is available in a publication entitled "Pilot Rules for the Rivers Whose Waters Flow into the Gulf of Mexico." Copies of this publication may be obtained from the Office of the Commander, Second Coast Guard District.

"Regulations to Govern the Use, Administration, and Navigation of the Ohio River, Mississippi River above Cairo, Illinois, and Their Tributaries." This document may be secured from Lockmasters and from the District Engineer.

Boating regulations may be secured from the Office of the Commander, Second Coast Guard District, the IDNR or the Missouri State Water Patrol.

"Locking Through" pamphlets provide the details and step-by-step requirements for passing through a lock. These pamphlets are available from Rivers Project offices and Locks and Dams.

#### Visual Aids

Markers are aids to commercial navigation watercraft and consist of post lights, lighted buoys, buoys, and markers established along the River channels and banks. Recreational boaters should understand and observe these aids as well.

Buoys of different sizes, shapes, and colors are provided as aids. Red nun buoys, conical in shape, are located on the left edge of the navigation channel proceeding downstream. Black can buoys, cylindrical in shape, are located on the right edge of the navigation channel proceeding downstream. Striped buoys indicate junctions or obstructions; the top band is red or black, indicating the preferred channel to the right or left, respectively. All buoys should be given berth of at least 50 feet. Special-purpose buoys can be studied from a publication that will be listed later.

Charts are also published for the convenience and guidance of small-goat operators and can be secured from the District Engineer. Details shown on these charts are:

#### Channels

The navigation channel of the River is established at a minimum width of 300 feet, with additional width in the bends. In the channel, a minimum depth of nine feet is maintained. Outside the channel, stable depths are not maintained and may be expected to change from time to time. Boat operators are advised to use caution when operating outside the limits of the regularly designated navigation channel.

#### Hazards

The navigation charts indicate only the known underwater hazards. Boat operators should be continually on the alert for hazards of this type because it is impossible to chart hazards such as water-logged timber and similar objects.

#### Locks and Dams

The locks and dams shown on the charts are navigational structures. They are not intended, and do not serve any function as flood-control structures.

Small-boat owners are privileged to receive lockage services free of charge. Precedence at locks as established by law is:

- First priority Government-owned vessels
- Second priority Commercial craft
- Third priority Pleasure craft

The Lockmaster has absolute authority over all functions at locks and dams. The public will follow his instructions in all matters while within his jurisdiction.

#### Safety

A definite hazard to small boats exists immediately upstream and downstream of each dam. On the upstream side of the dam, a strong undertow exist. On the down stream side of the dam, turbulent water exist. Large danger signs are painted on each of the structures to warn boat operators about the anger areas.

#### Fishing

For fishing purposes, vessels are not permitted mooring to any part of the lock and dam structure. Mooring is permitted only while locking through or while awaiting lockage.

# **U.S. Coast Guard Jurisdiction**

The U.S. Coast Guard has jurisdiction over aids to navigation, safety on the River, and the inspection of craft.

The Coast Guard offers inspection service free of charge to recreational boat owners. Boat owners should acquaint themselves with the Coast Guard rules and regulations on the rivers.

Any menace to navigation or a marine casualty should be reported immediately to the Office of the Commander, U.S. Coast Guard.

# 7.9. PLAN IMPLEMENTATION – STRATEGIES AND POTENTIAL FUNDING AUTHORITIES

# Introduction

The means of accomplishing a development program is equally important as the plan itself. Current national priorities limit development and renovation options more than they were in the past. There is considerably more emphasis, therefore, on the provision of recreation opportunities solely by local interests. A need exists for the proposals contained in this master plan, and-it is expected to become greater in the future. It should also be recognized that changing priorities could drastically affect the manner and schedule for implementing this master plan. Hopefully this master plan will have continuing utility despite any changing priorities that may affect its implementation.

# **Implementation Alternatives**

There are several implementation methods or authorities currently available for development at the Rivers Project. They are:

# Operations and Maintenance (O&M) Funds

The use of regular O&M General Funds is restricted to existing Corps managed facilities and areas that require labor and/or materials for routine operation or are in need of maintenance, repair, renovation, reconstruction, replacement or consolidation.

#### Avoid and Minimize

In the Record of Decision for the Melvin Price Locks and Dam, Second Lock, the Corps established a program designed to avoid or minimize possible environmental impacts of increased navigation traffic due to the second lock. The Corps, U.S. Coast Guard and the towing industry are responsible for implementation in coordination with the USFWS and Illinois and Missouri conservation agencies. Corps O&M funds are programmed to implement identified and approved measures.

# Development Solely by State or Local Interests Through Outgrants

As in the past, state and local governmental entities with all or part of a project in their jurisdiction may obtain use, under a lease or license, of an area for approved recreational development. In such cases, all development costs are the sole responsibility of the local sponsor and operation, maintenance, and major replacements costs must be borne by them also

#### Development by Concessionaire

Another project development and funding method that can be used involves the implementation of some of the plans proposed in this Master Plan by a concessionaire. Only activities for which there is a viable commercial market are generally eligible. For developments undertaken in this manner, operation, maintenance, and major replacements are also provided by the concessionaire.

# Use of Special Recreation User Fee (SRUF) Revenues

Special recreation user fee revenues which are rebated to the District are available annually to accomplish a fairly wide range of actions. Essentially, these funds may be used to decrease project operation and maintenance costs and/or to increase user fee revenues, but only in existing recreation areas. Means of achieving these goals may generally include renovation, consolidation, separation of day-use and overnight

areas, addition of facilities or features thereof, and payment of operation and maintenance costs including those for fee collection and other improvements on a case by case basis. According to October 1984 guidance on the use of SRUF funds, they may also be applied to the provision of barrier-free access for people with physical disabilities. Under this implementation method, operation, maintenance, and major replacement responsibilities would remain with the Corps or, with changed local conditions, could conceivably be assumed by an outgrantee.

# Challenge Cost-Share and Contributors

The challenge cost-sharing and contributions program provides opportunities for non-federal public agencies and private organizations and individuals to contribute to and participate in the operation and management of recreation facilities and natural resources at Corps water resource development projects. Facilities constructed can not add to federal operations and maintenance costs.

# Volunteer Program

The Corps may accept the services of volunteers and provide for their incidental expenses to carry out any activity of the Corps except policy making or law/regulatory enforcement as authorized under PL 98-63. A volunteer is not an employee of the Corps except for the purposes of Chapter 171 of Title 28 of the USC, relating to tort claims, and Chapter 81 of Title 5 of the USC, relating to compensation for work injuries. Voluntary service is official government business, having some value to the Corps, conducted by volunteers under the direction of a paid Corps staff member.

Volunteers provide diverse and significant contributions to many of the Rivers Project Environmental Stewardship, Recreation and Interpretive Service programs annually worth thousands of dollars.

# Recreation Cost Sharing (Construction General [CG] Funds)

The use of CG funds for recreational development is possible as a part of a much larger navigation or flood control project. Funds available are limited to a maximum of 10 percent of total project cost and are contingent upon a cost-sharing agreement with a non-federal public entity (city, county or state) to provide 50 percent of the costs of recreational development and 100 percent of the operational and maintenance cost.

This Master Plan does not contain any cost sharing proposals, but may in the future serve as a basis for initiating such actions. Any program proposals will be based on a letter of intent provided by the non-federal sponsor and shall include estimated cost of the proposed development; cost to be borne by cost sharing sponsor; method of repayment the cost sharing sponsor will use to match federal funds; and understanding of cost sharing sponsor regarding assumption of operation and maintenance.

There are two exceptions to this policy. These exceptions permit the construction, operation and maintenance of new facilities without cost sharing.

One exception is the authority for upgrading sanitary facilities in existing Corps managed recreation areas to meet urgent sanitation needs in accordance with provisions of applicable state and federal laws. The second exception involves the use of Special Recreation User Fee (SRUF) funds. These funds are authorized for expenditure on additional facility improvements, renovation and/or consolidation of recreation areas

as long as it lowers recreation area operation and maintenance (O&M) costs and/or increases user fee revenues.

# Environmental Management Program (EMP)

Section 1103 of WRDA 1986authorized this multi-element program to restore and balance the resources of the UMRS. A key component of the long-term program includes development and funding for Habitat Rehabilitation and Enhancement projects.

This program was reauthorized by WRDA 99 Section 509.

St. Louis, Rock Island and St. Paul Districts receive approximately \$12-15 million in CG funds annually to design and construct habitat projects on UMRS public lands through sponsorship and cost sharing with the appropriate states and/or the USFWS. The agency partners sponsoring the various habitat enhancement projects are also responsible for O&M once they are completed.

# Continuing Authorities Program (CAP)

The Corps undertakes studies of water and related resources problems and opportunities as directed or authorized by Congress. These Congressional authorizations are contained in public laws, and in resolutions of either the House Public Works and Transportation Committee or the Senate Environment and Public Works Committee. Study authorizations can be unique, study-specific authorities, or they can be standing program authorities, usually called continuing authorities, under which specific studies and projects may be done. These studies are done at the discretion of the Secretary of the Army of the Chief of Engineers and focus on whether a federal project responding to the problems and opportunities of concern should be recommended.

Some of the Continuing Authorities relevant to the Rivers Project environmental Stewardship mission and potentially desirable to use include:

## Section 206 WRDA 1996 - Aquatic Ecosystems Restoration

This CAP authorizes small aquatic eco-system restoration projects up to \$5 million in federal cost per project if it is in the public interest and cost effective. The project must be cost-shared (35 percent) with a non-federal sponsor, who is responsible for 100 percent of O&M as well.

# Section 205, WRDA 1996, Environmental Dredging

This CAP authorizes an annual appropriation available for environmental dredging as part of the O&M for federal navigation projects. Corps districts must apply for and be selected to receive the limited dollars available for this program.

# Section 1135, WRDA 1986 - Project Modifications for Improvement of the Environment

This CAP is intended for modifying structures and/or operations of existing Corps constructed projects for environmental enhancement purposes, consistent with project purposes. Federal cost per project is limited to \$5 million and a non-federal sponsor must cost-share (25 percent) design and construction and take 100 percent responsibility for O&M.

# Section 204, WRDA 1992 - Ecosystem Restoration Projects in Connection with Dredging

Work under this CAP provides for protection, restoration and creation of aquatic and wetland habitats in connection with construction and maintenance dredging of an authorized project. The federal study limit is \$5,000

and there is no established federal project cost limit. This CAP must be cost -shared (25 percent) with a non-federal sponsor.

# Section 22, Planning Assistance to States (PAS)

Section 22 of WRDA 1974 authorizes the Corps to assist states in preparing plans for the development, utilization and conservation of water and related resources of drainage basins within the state.

Requests from states arise from local identification of problems.

Typical studies are general in detail and do not include design for project construction. The program can encompass many types of studies including:

- Ecosystem restoration
- Water supply
- Water quality
- Water conservation
- Hydropower development
- Flood control
- Erosion and navigation

State allotments are limited to \$300,000 annually but generally are between \$10,000 - \$25,000.

#### Section 216 - Flood Control Act of 1970 - Completed Project Review.

Section 216 authorizes review and report to Congress of the operation of completed project when found advisable due to significantly changed physical or economic conditions.

The recommendations of the report may advise modifying structures or their operation, and improvements for the quality of the environment in the overall public interest.

# Section 514, WRDA 1999 – Missouri and Middle Mississippi Rivers Enhancement Project.

Section 514 authorizes development of a plan for the Missouri River and the Mississippi River, from the mouth of the Missouri River to the mouth of the Ohio River, to implement protection and enhancement of fish and wildlife habitat. Implementation requires a non-federal cost share sponsor (35 percent) and 100 percent non-federal operation and maintenance responsibility.